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LITHOGRAPHY

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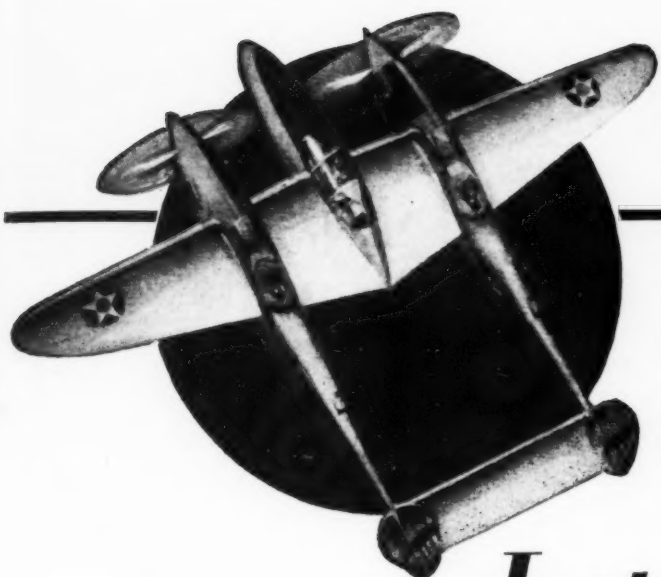
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made from dyestuffs
treated with sodium tungstate
for better sunfastness
and are still leading
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The Senefelder Company, Inc.

"Everything for Lithography"

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Guadalcanal, North Africa, New Guinea, the Aleutians, wherever it has met the enemy, the P-38 has proved to be a champion. This fighter plane that is making history can also help settle the question of which offset paper finish to select.

Let the P-38 help you select the finish to use

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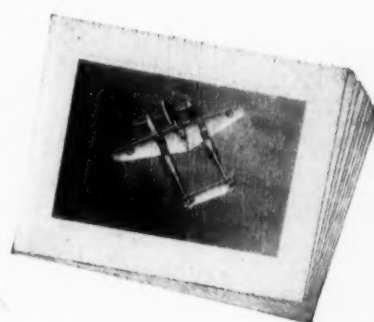
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for it!*

Hammermill Paper Company,
Erie, Pennsylvania

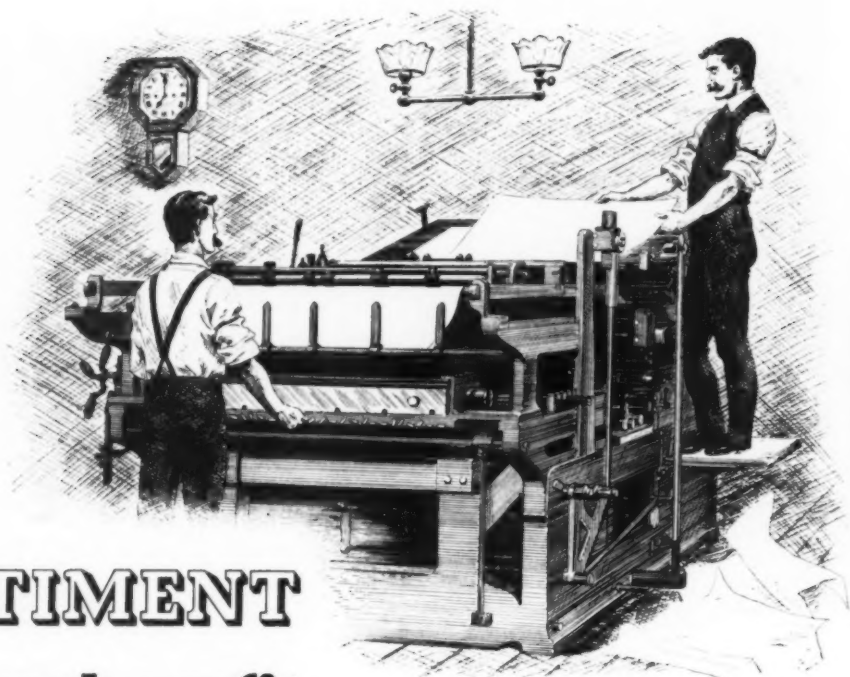
Please send me my free demonstration set of offset printing on the nine finishes of Hammermill Offset.

ML—Mar.

Name

Position

(Please attach to your business letterhead)



MUCH SENTIMENT ... but not much profit

REMEMBER way back when that grand old cylinder was new and shiny—and efficient? Even today, the old machine can turn out a slow sheet or two on an easy "customer's accommodation" job. But it has no place in a modern, war-time world. National need affords an honorable retirement for it and for all old printing machinery, no matter how sentimentally valuable.

Send it to fight Hitler and the Japs!

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The Miller War-Time Scrap Allowance Plan is the printing industry's own means of contributing scrap machinery, with multiple benefits to business and industry. For details, write.

Miller Printing Machinery Co.
Pittsburgh, Pa.

MODERN LITHOGRAPHY

PUBLISHED IN THE INTERESTS OF LITHOGRAPHERS EVERYWHERE



THE COVER

Posting a 24-sheet Red Cross poster, one of 17,000 being displayed this month across the nation. This poster was produced by Gugler Litho, Milwaukee, and the space was donated by General Outdoor Advertising. (Story page 44)

March, 1943

Volume 11, No. 3

THE COMPLETE TECHNICAL BACKGROUND and a review of all that's been done to date on plastic litho plates begins on page 20. This is written by an independent expert, not connected with any plastic plate agency or manufacturer.

The Public Printer addresses a mass meeting of the graphic arts and tells of GPO plans (page 26), while WPB postpones second paper cut until July 1. (page 33)



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MODERN LITHOGRAPHY

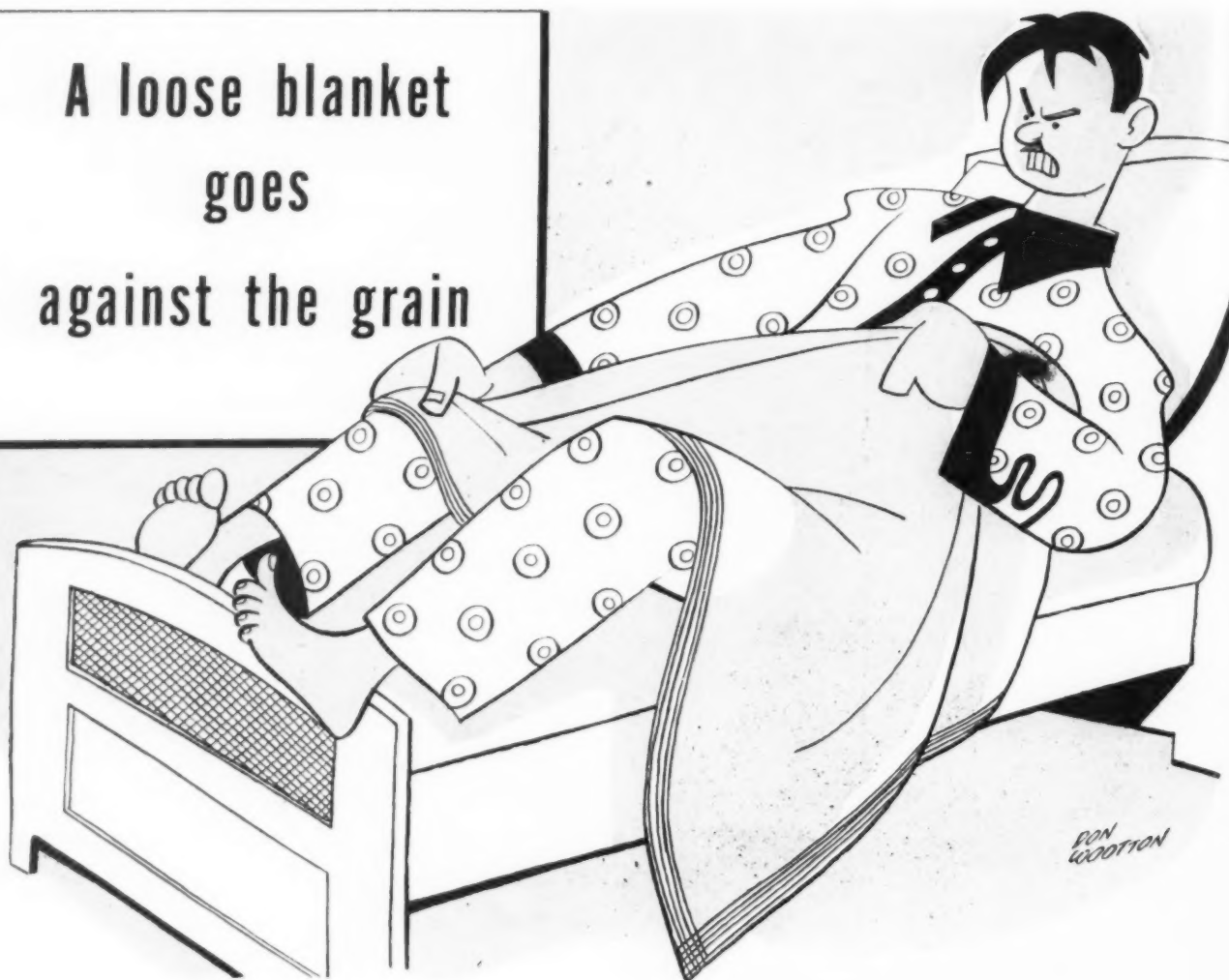
Reg. U. S. Pat. Office

GRANT A. DORLAND, President; IRA P. MACNAIR, Vice-President; WAYNE E. DORLAND, Secretary-Treasurer. Published monthly on the 15th by The Photo-Lithographer, Inc., Advertising and Editorial Office, 254 W. 31st St., New York, N. Y. ADVERTISING RATES: Advertising rates made known on application. Closing date for copy—20th of the month previous to date of issue. SUBSCRIPTION RATES: \$3.00 per year in the United States, \$4.00 per year in Canada. Single copies, 30 cents. Entered as second class matter at the Post Office at New York, N. Y., under the Act of March 3, 1879.

MARCH 1943

5

A loose blanket
goes
against the grain



A loose blanket on your press will materially lessen the life of those now-unreplaceable Aluminum litho plates you are trying to make last until victory is won. A loose blanket will creep and crawl under the impact of the plate cylinder, causing a scuffing action that speeds the wear on the plate grain. Keep the blanket tight and increase the life of the Aluminum plate.

Here's another hint for lengthening the life of your Aluminum plates. Be sure that the ink rollers and dampening are set properly—neither too tight nor too loose. Too much pressure causes them to drop down at the end of the plate and bump badly in coming up on the plate section again. This causes excessive wear and scrubbing on the litho

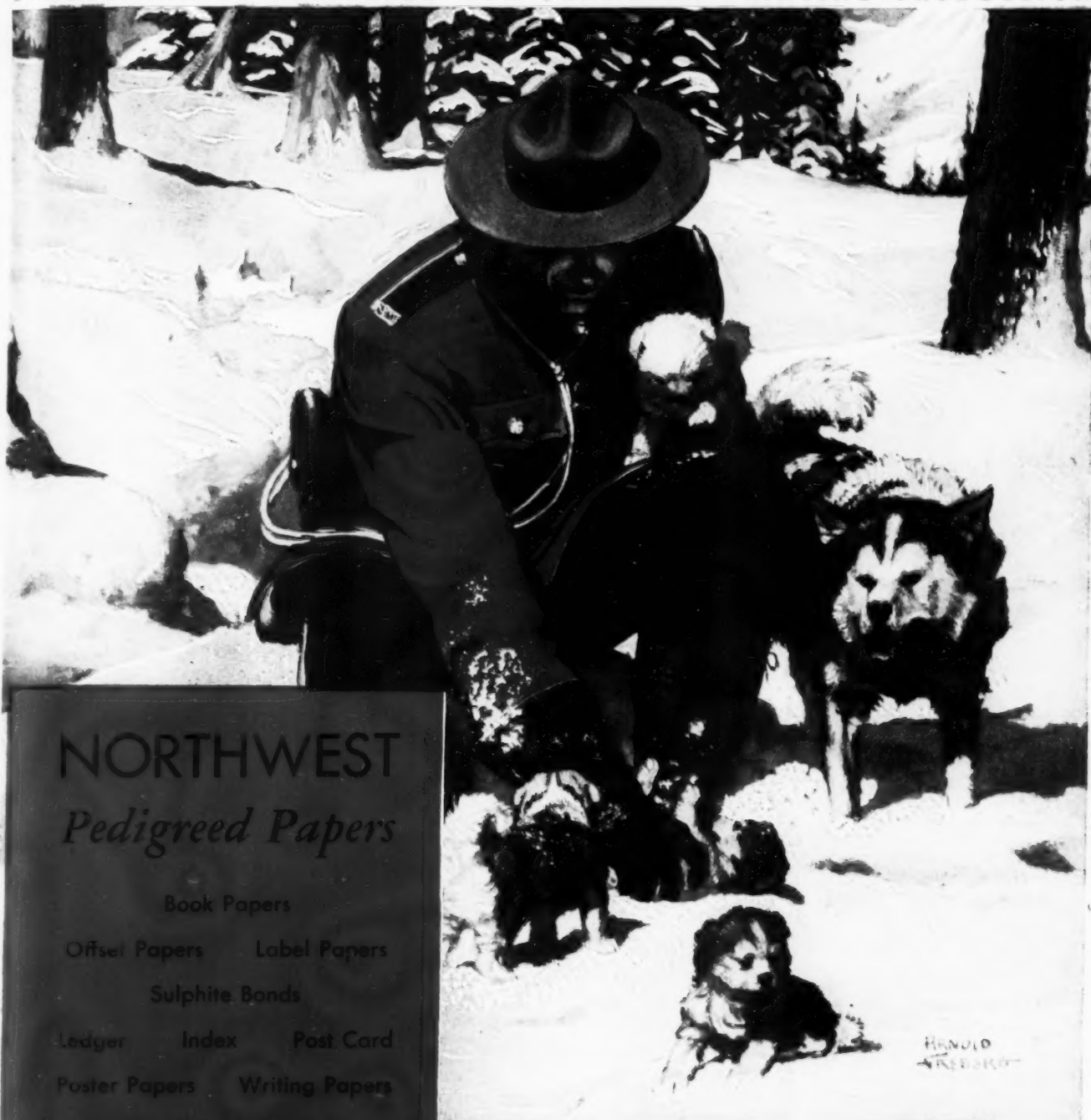
plate. Unnecessary wear on the grain causes too-frequent graining of the plate, and wears the plate out before its time.

You bought Aluminum litho plates in the past because you get better results, brighter images, longer runs by using Aluminum. You can maintain the high quality of your work by protecting those Aluminum plates and keeping them in service until the war is won and Aluminum plates are again on the market.

We shall be glad to discuss your plate problems with you, and offer suggestions that will keep your Aluminum litho plates running. ALUMINUM COMPANY OF AMERICA, 2116 Gulf Building, Pittsburgh, Pennsylvania.

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LITHOGRAPHIC PLATES

TRADITIONALLY PREFERRED FOR PRECISION PRINTING PRODUCTION



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Ledger Index Post Card

Poster Papers Writing Papers

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Drawing

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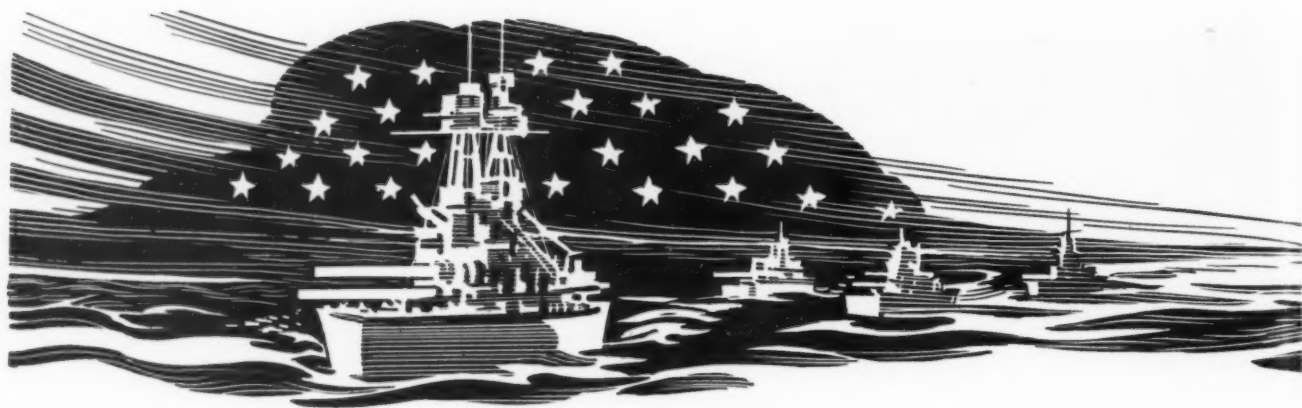
Envelope Papers

Northwest Pedigreed Papers have always been known as "printers' papers" because they so completely meet the issue of practical production. This was true yesterday, is today and will be tomorrow. Every dependable feature of service that characterized Northwest grades in peace-time is still an inherent ingredient during war-time. Uncle Sam naturally gets first call on our production, but other essential civilian needs that aid the war effort are also being served.

VICTORY *War Quality* PAPERS

THE NORTHWEST PAPER COMPANY · CLOQUET, MINNESOTA

MARCH 1943



The Allies Still Need Scrap Metal for Ships and Shells ★ Guns and Bullets ★ Tanks and Trucks

The Graphic Arts Industries have responded in an inspiring manner, but there is still a large amount of scrap metals and other usable materials in the printing, publishing and lithographic plants of Canada and of the United States which can be salvaged and used to meet the vital needs of our respective armed forces.

The job isn't finished... Look further... Dig deeper... Get out the scrap!

Don't Hoard Useless Machinery

This would appear to be a good time to make final profitable use of some of the obsolete and worn-out machines of various kinds which many plants keep standing in the hope that they "some day" will be used—but *seldom are*. These old machines, often affectionally regarded because of past associations, have earned the right to retirement in the service of their country. Add them to your scrap heap.

This appeal is made to printers, publishers and lithographers of Canada and of the United States in behalf of our common war effort. All available scrap is allocated by our Governments, and everything you salvage will ultimately find its way to our fighting fronts. In this way YOU can help win the war.

Salvage for Victory!

LANSTON MONOTYPE MACHINE COMPANY

MONOTYPE BUILDING, TWENTY-FOURTH AND LOCUST STREETS, PHILADELPHIA, PENNA.





out of the earth
to serve the nation

The Eagle-Picher Lead Company is serving in this war by taking from the land lead, zinc and minerals...by giving back to the nation vital materials that go into fighting tools for Uncle Sam; oxides and metals for batteries in jeeps and tanks, for lenses in cameras, for equipment in planes.

For 100 years, Eagle-Picher has built up an increasingly outstanding record of quality service. Today, this reputation is effectively conveyed to customers and contacts by the Company letterhead on Strathmore Bond.

Your letterhead should express...and help to build... the reputation of your business. Choose a fine paper, and be sure of the impression you make in your important correspondence. A letter written on Strathmore Paper costs only a small percent more than a letter written on the cheapest paper you might buy. Such plus value, for so little cost difference, is sound business economy. Write us for detail of "letter" cost.

Strathmore Papers for Letterheads: Strathmore Parchment, Thistlemark Bond, Bay Path Bond, Strathmore Bond, Strathmore Script, Alexandra Brilliant and Strathmore Writing.

STRATHMORE *MAKERS
OF FINE
PAPERS*

Strathmore Paper Company, West Springfield, Massachusetts

MARCH 1943

PAPER IS PART OF
**TODAY'S
PICTURE**

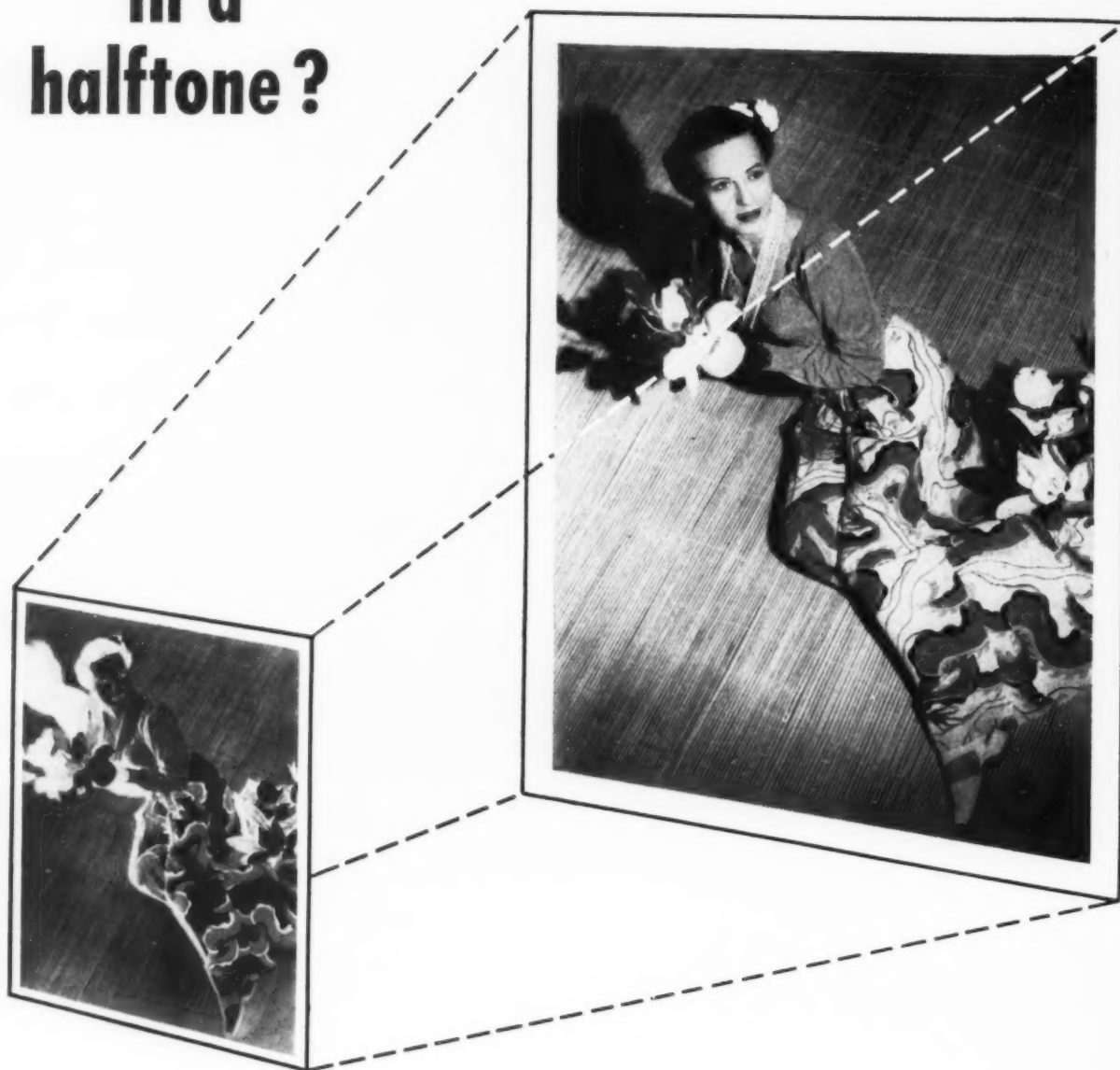
Current Strathmore advertising points out how essential paper is to the war effort, features leading industries that use Strathmore in their Victory programs, stresses the point that good letterheads help maintain the reputation every firm is guarding today.

★ ★ ★

This series appears in:

**FORTUNE
TIME
BUSINESS WEEK
UNITED STATES NEWS
NEWSWEEK
FORBES
ADVERTISING &
SELLING
TIDE
PRINTERS' INK
SALES MANAGEMENT**

How many tones in a halftone?



THE number of dots in a halftone and, more important, *the character of the dots* determine the accuracy with which tones are reproduced from the original.

To insure fidelity of *all* tones, a large number of lithographers use only Agfa Ansco Reprolith Films for their work.

Here's why . . .

Repro lith's wide latitude permits delicate control of tone during development. In addition, its high contrast and high resolving power work together to reproduce every detail of your original—sharply!

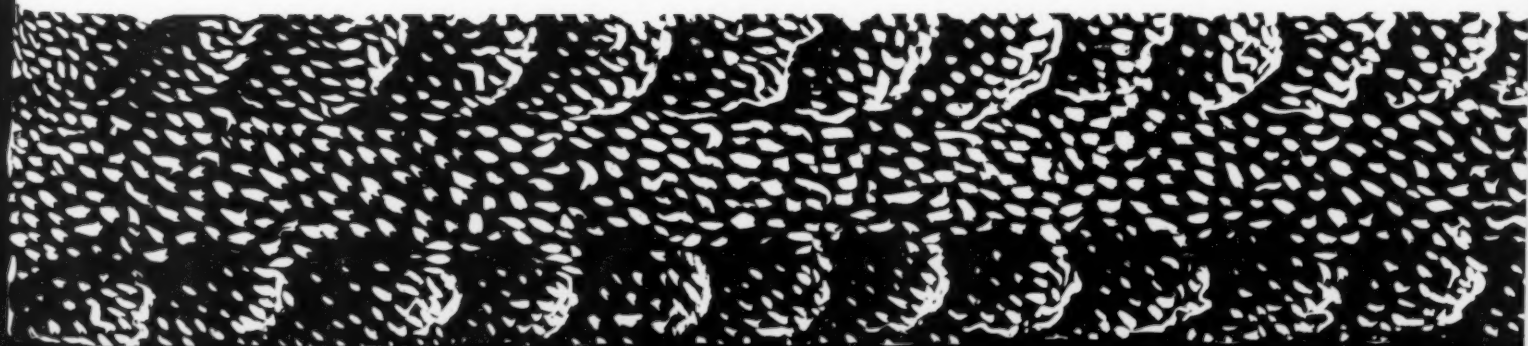
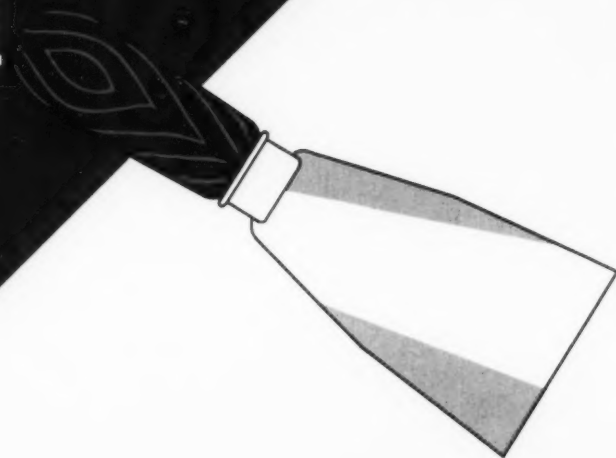
For line or screen, black-and-white or color work, Reprolith

Films are unsurpassed. You have six types from which to choose. **Graphic Arts Division, Agfa Ansco Binghamton, New York.**

Agfa Ansco
REPROLITH FILMS

LITHOGRAPHIC INK

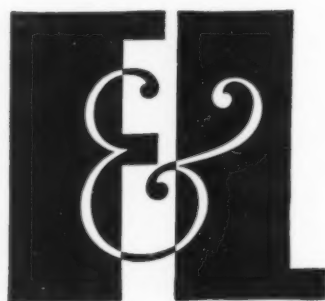
Can anyone say "lithographic ink" without coupling it with "F & L"? They are practically synonymous in the pressrooms of the industry. The secret: "know how".



U-NEEK

Plate Coating Solution

I S S O L D B Y



As exclusive national distributor, we are in a position to render immediate delivery from all our branches. U-NEEK on your plates reduces printing time, gives longer press runs and approximates the quality of deep etch. You can count upon its dependability and uniformity. It will not deteriorate. Steadily increasing sales indicate U-NEEK is being adopted by many lithographers. Almost without exception, a trial results in continued repeat orders. Save yourself the time and trouble of making your own solutions by using U-NEEK.

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ESTABLISHED 1870

DIVISION · GENERAL PRINTING INK CORPORATION

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FORT WORTH

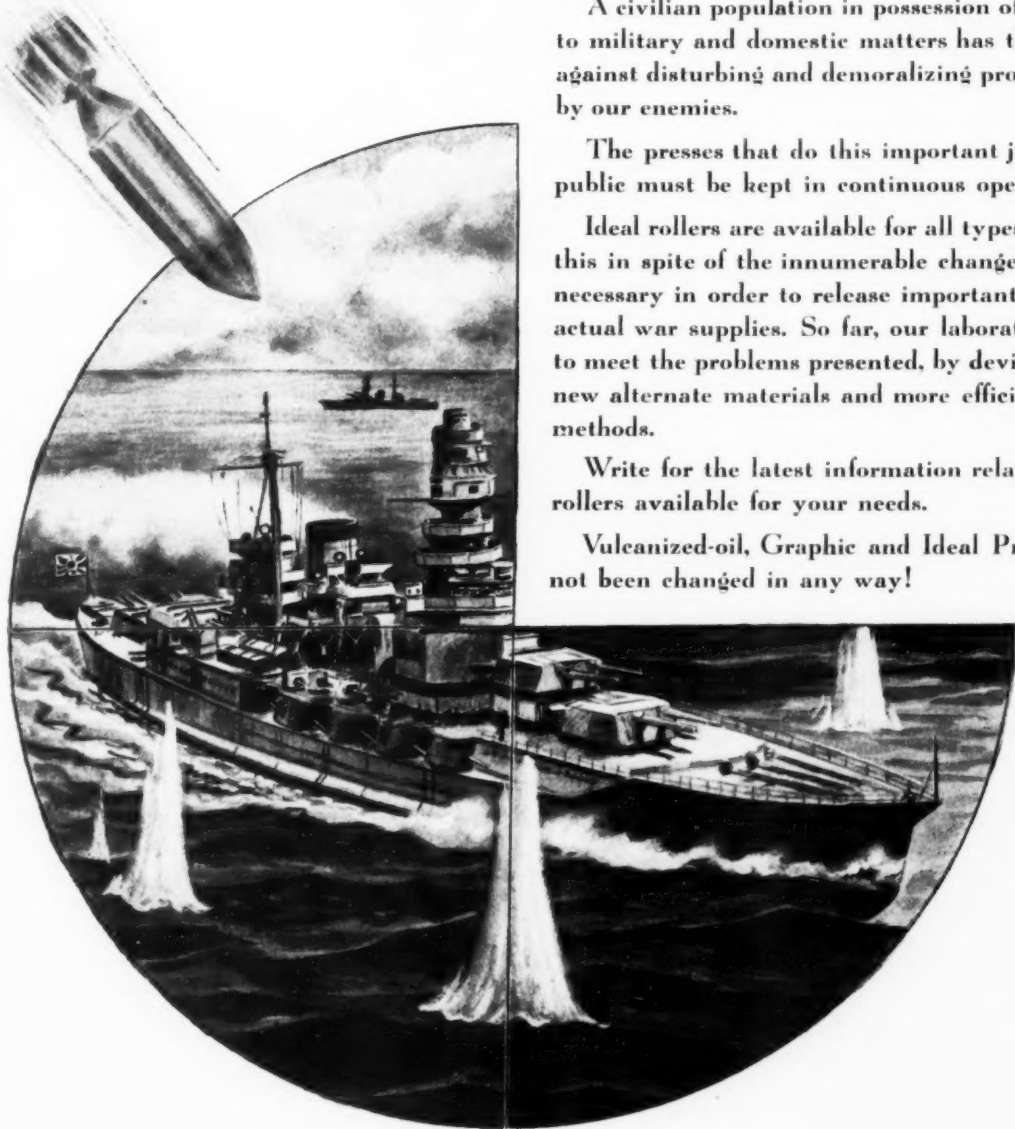
CLEVELAND
LOS ANGELES

PHILADELPHIA
TORONTO, CANADA

ST. LOUIS

We're Helping to Put the Enemy on the Spot!

Ideal



Aside from the actual important war work which is being done at the Ideal plants, we are helping printers and lithographers rout our enemies in more subtle ways.

The printed word, as a means of maintaining civilian morale, is well recognized by all branches of war service. The herculean task of keeping our own people well informed on all vital matters is one that is primarily handled by the graphic arts industry.

A civilian population in possession of true facts relative to military and domestic matters has the strongest armor against disturbing and demoralizing propaganda concocted by our enemies.

The presses that do this important job of fortifying the public must be kept in continuous operation.

Ideal rollers are available for all types of presswork, and this in spite of the innumerable changes which have been necessary in order to release important raw materials for actual war supplies. So far, our laboratory has been able to meet the problems presented, by devising new formulas, new alternate materials and more efficient manufacturing methods.

Write for the latest information relative to the type of rollers available for your needs.

Vulcanized-oil, Graphic and Ideal Process rollers have not been changed in any way!

IDEAL ROLLER & MANUFACTURING CO.

CHICAGO, ILLINOIS • LONG ISLAND CITY, NEW YORK

Service branches are located in all of the principal cities



Yes...the Graphic Arts Victory Committee is definitely "on the way."

Since its inception in March of 1942...it has grown and grown in scope and activity. First, it had to obtain approval of its plans from WPB and OWI. Then, there were long months of planning, research, financing and organization. Three months were consumed in collecting the information for the GUIDE BOOK—and in getting the manuscript and page proofs "cleared" for accuracy through the Government Agencies concerned with Victory Projects...including OWI—OPA—ODT—DH&W—OCD—WMC—Treasury—Commerce—Agriculture.

But...now the GUIDE BOOK is finished—64 pages of vital information, showing how printed promotion can be converted from its peace time

practices...to an all-out bulwark of support for the war effort. The GUIDE BOOK lists all sources of information on every project requiring printing and lithography.

The "talent committee" has already produced a "Convention-by-Mail" manual to assist the Office of Defense Transportation. The "talent committee" has completed a project for the Rent Control Section of OPA—and printers will be asked to show their customers dummies and suggested copy for "printed promotion." A new project for the "V Homes" program is now in the works.

Local committees are being organized all over the country under the guidance of R. Reid Vance, President of the Graphic Arts Trade Association Executives. Meetings are being held...many more are scheduled. The Graphic Arts industry is demonstrating that it can *convert itself* to the war effort.

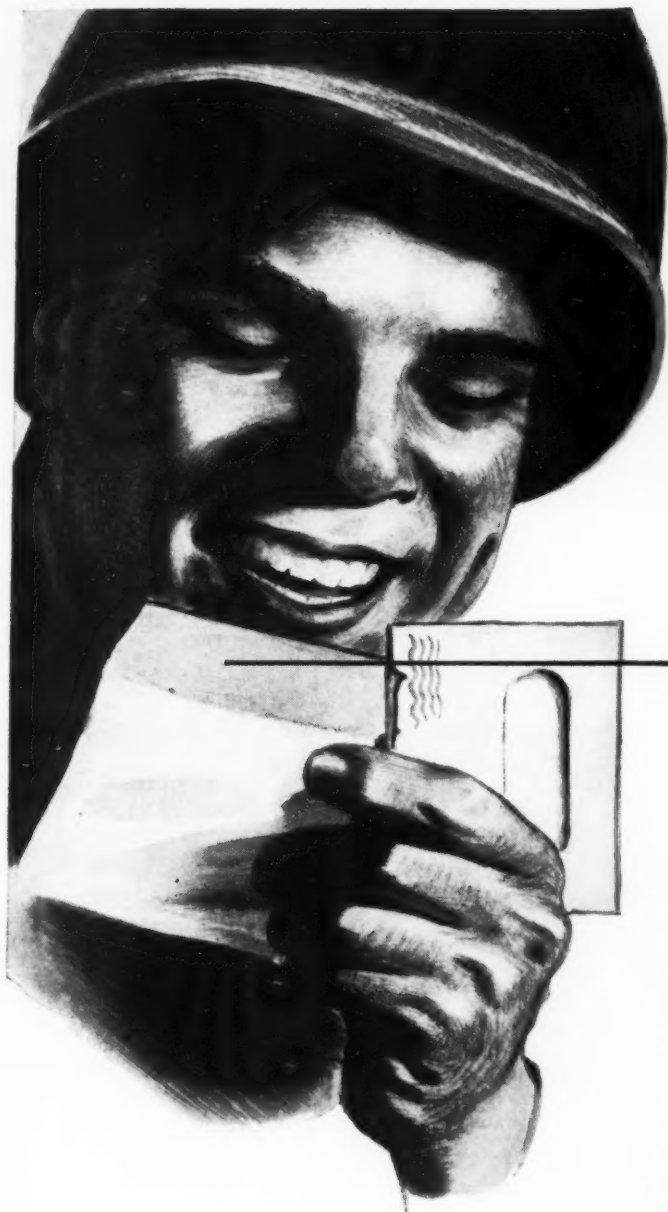


All participating members of the G.A.V.C. are receiving the Guide Book, Convention manual and other project releases as published. If you are not yet participating, get in touch with your *local chairman* or arrange for your active participation through Harry Porter, Chairman of the Finance Committee, c/o Harris, Seybold, Potter Company, 4510 East 71st Street, Cleveland, Ohio. For Program information write to the

GRAPHIC ARTS VICTORY COMMITTEE

17 East Forty Second Street, New York City

This manual is now being offered to Advertisers and Agencies in advertisements appearing in Printers' Ink, Salesmanagement, Advertising & Selling, Advertising Age, Tide, and Industrial Marketing. Get your copy by becoming an active participant in the G.A.V.C.



Ever hear about V...-Mail?

We did not originate V . . . - Mail. But we do supply paper for it. V . . . - Mail is only one example of the wartime importance of paper. Paper products are not only solving many odd problems, but paper itself is fighting in war plants and at the front. From ration books to cartridge cases, paper is doing innumerable vital jobs.

We know quite a bit about it because we *make a thousand miles of paper a day*. All our past experience, all our research facilities, are focused on helping the war effort, and in the process we're learning new, almost incredible things that can be done with wood fiber. When materials come again into the market and new demands for cellulose products can be met, we will be able to supply papers for many purposes.

In the meantime Oxford merchants and Oxford salesmen are at your service.

. . .

Can paper products take the place of scarce materials vital to the war effort? All our research facilities are concentrated on finding the answer.

● Paper is taking on a lot of assignments in this war.

Sometimes it doubles for strategic metals. Sometimes it is the means of cutting shipping space or saving time.

Take V . . . - Mail, for example.

Letters written on V . . . - Mail forms travel only to the point where they're photographed on 16 millimeter film - and 25 pounds of film carry 150,000 letters.

Then the film is shot by plane to any part of the world where fighting men are hungrily awaiting letters - enlargements from those tiny frames of film are made and delivered in a special V . . . - Mail envelope.

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230 Park Avenue, New York, N. Y.

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Procrastination is not an unusual habit of mankind — yet because of it opportunity suffers.



*Laboratory tested, packaged, ready-to-use
platemaking chemicals are available now!*

Our technicians are at your service for demonstrations. Let them make a plate for you now and in your own plant ready for your press. — No expense and no waste of your time.

Get in touch with our nearest branch NOW!

Sinclair and Valentine Co.



Sinclair and Valentine Co. Main Office and Factory: 611 West 129th Street, New York City

Branches: { Albany Boston Cleveland Detroit Kansas City Miami New Orleans
Baltimore Charlotte Dallas Havana Los Angeles Nashville Philadelphia
Birmingham Chicago Dayton Jacksonville Seattle New Haven San Francisco

THE GLORY OF DEMOCRACY

THE sacrifices that are needed in order to win the war are apparent to us all.

The Treasury's appeals to buy War Bonds, the Government's pleas to conserve gas and rubber, the economies required to avoid inflation, the necessity of rationing many essential commodities—all these have become vital in the minds of our people.

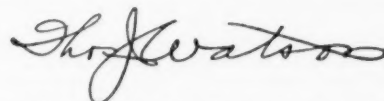
Necessity has awakened us, not only to the size of the task before us, but to the fact that our future as a nation is at stake; and in characteristic fashion *we-all* are responding.

Our hearts speak, our purses are open wide; and regardless of creed, or color, or political convictions, our honest differences of opinion are being dissipated before the issue that confronts us.

This is the glory of democracy: that a man may think as he will, speak as he will, vote as he will, and worship God in his own way; yet in the hour of peril to the State, that which is for the greatest good of all is not only his most compelling thought but the strongest prompting of his heart.

In that hour his thought is no longer of himself but of his country; and it is as though his soul were crying out those memorable words of Plato: "Man was not born for himself alone but for his country."

BUY WAR BONDS

 , President

INTERNATIONAL BUSINESS MACHINES CORPORATION

WAR DROPS A

Flare OVER PAPER



As an undramatic peacetime commodity, paper long was blacked out by people's indifference. But today it is being flooded with the light of public appreciation, for it is in the mighty drama of war that paper assumes its greatest role. Pulp is essential for explosives, while mills work day and night producing paper for shell containers, food packaging, propaganda leaflets, military manuals, war maps, advertising, and substitutes for certain critical materials. Champion is proud of its importance in the industry, and of its ability to convert great stands of timber into many materials that contribute to America's early victory.

THE CHAMPION PAPER AND FIBRE CO., Hamilton, Ohio

MILLS AT HAMILTON, OHIO . . . CANTON, N. C. . . HOUSTON, TEXAS

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EDITORIALS

RECENTLY there has come to our attention the need in the litho industry for some sort of elementary training program prepared expressly for the many newcomers now working in the trade. Lithographers in hiring new employees to replace the many being lost to the armed services and to direct war industries, say it would be a real help to have some sort of literature or some simple training program to offer these new people with the purpose of acquainting them with the elements and scope of the lithographic industry.

In making a sketchy review of what is available we find very little in the way of elementary literature except for complete books. Of course nothing like a complete coverage of the industry could be contained in less than a full sized book. On the training side, most existing courses are planned for those persons who already have experience in the trade.

A notable step in this direction has been made by the New York Association of Photo-Lithographers with the cooperation of the educational department of the Lithographic Technical Foundation. These two groups are currently surveying the trade in New York City to determine the extent of the need of such a training course, and are placing the emphasis on the training of women for lithographic work. If the need is found to be great enough a practical course of study will be arranged.

The manpower shortage in the New York trade is not as acute as in many other centers where direct war industries have drawn off more of the available supply. This indicates an even greater need for such a training program in other places.

The various litho clubs in other cities would be logical starting points for such programs. Members of these clubs are faced with the problem of employee replacements, and within their own ranks are capable men who could present the various phases of shop work to classes of trainees.

Preparation of copy, camera operation, stripping, opaquing, principles of platemaking, and press work could be described and demonstrated by men who specialize in these operations. Women have already shown their ability to do these jobs in many litho shops.

The long range elements of such a plan have been considered by the New York groups, and the training of women is undertaken with the acknowledgement that they are temporary replacements and will in turn be replaced by former employees when they return from the armed services.

We suggest that those in charge of litho club programs feel out their members on this question and if sufficient need exists we believe it would be a worthwhile project.



WITH the industry already operating on 90 per cent of its 1941 consumption of paper, except for government work, the probability of a second 10 per cent reduction was predicted for April 1st by officials of the War Production Board.

However, as we go to press word comes from Washington that this proposed second cut has been postponed until July first, with increased amounts of pulp given as the reason.

Apparently this postponement results not only from the suddenly discovered quantities of pulp, but also from increasing pressure from publishing groups, and from the sharp criticism hurled at the restrictions by various members of Congress.

It will be interesting to see what develops in Washington now that Congressional groups have become cognizant of the paper restrictions as they affect the nation's press. Investigations by that legislative body often throw light on dark, confused situations, and this one may become more clear-cut as more information is made public on available pulp supplies, and on government use of large quantities of paper.

P L A S T I C

**A timely review of all
that has been done on
this widely discussed
industry development**

by

J. S. MERTLE

F. R. P. S., Technical Director, I. P. E. U.

THE publicity recently given to plastic pressplates for lithographic printing would perhaps convey the idea that the use of synthetic materials as substitutes for zinc, aluminum and other metals is a modern innovation, and a direct result of the present wartime shortage of essential metals. This is hardly the case, and while modern effort to supplant metals as litho printing surfaces is an important technical development, the situation as so far unfolded to the industry could lead to the opinion that the development has been somewhat victimized by over-enthusiastic and premature publicity.

To better understand the entire matter it might be well to briefly review the history of non-metallic surfaces as supports for lithographic images. As is so frequently the case in lithography, the original idea in this direction can be traced to the inventor of the process—Alois Senefelder. It is a known fact that the Father of Lithography experimented with zinc plates as a substitute for litho stone, and that he devised (1818) a material called *stone paper*,¹ but it is not so well known that

Senefelder actually patented this material in France on February 22, 1819, applying the term "papyrographie" to printing from such surfaces.²

The term later was adopted (1873) by William Abney for a photolithographic transfer process, but our attention need be devoted only to the Senefelder invention. According to Engelmann and the later German authority, George Fritz,³ either vellum (parchment paper) or oiled linen were used as supports for a coating or composition consisting of white chalk, gypsum, plaster of Paris, clay, mineral wax, metallic oxid and oil.

Although the Senefelder patent failed to attain practicability and although the calcareous composition was not a plastic in the true sense of the term, the invention pointed to the use of paper as a possible litho support, and was the historical basis of many subsequent efforts to produce a suitable substitute for stone and metal plates in the process of litho printing.

Failure of Senefelder's idea did not deter others from kindred experiments; twenty years later (1839), the Berliner, G. Behrend, actually introduced an "artificial litho plate" bear-

ing a calcareous coating. This was followed through the years by a whole array of inventions and patents for litho surfaces comprising metal and other supports coated with various compositions and classifiable under the general heading of "kalksinterplatten" (calc-sinter plates),⁴ but these can for the most be ignored except for passing mention of the "stone paper" of the Viennese firm of Sporlin & Zimmermann (1898), the paper devised by the Austrian Institute of Graphic Arts,⁵ and the product of the firm of Jaenecke Brothers, the latter really a form of transfer paper. There also was the patented⁶ process of the Britisher, G. S. Christie, in which a mixture of borates and carbonates of magnesium and potassium were ground with glycerin and the plastic mass applied to canvas or other coarse textile—a direct application of the Senefelder procedure.

A curious adaptation of the "artificial litho stone" principle was the patented process of the Berlin (Germany) firm of Capitaine and von Hertling,⁷ wherein a litho surface was prepared by impregnating a solution of ordinary collodion with powdered litho stone, then pouring out

LITHO PLATES

the mass in a layer of required thickness. On evaporation of the solvents (ether-alcohol), the calcareous collodion film was said to be nearly as hard as natural litho stone, and could be used in exactly the same manner, with less danger of cracking or breakage as compared to litho stone.

Archaic as the idea of artificial litho stones and stone paper may appear at the present time, it is interesting to note that a modification of the principle has lately been incorporated in the "smudgeproof-edge" plates of Champion and Bjorksten.⁸ In their process a marginal layer (coating) of sodium silicate (water glass) is applied to the edges of planographic (aluminum) plates, the layer being non-ink-receptive and permitting the edges of the plate to be freely touched without danger of smudging these areas.

Mention of collodion (nitrocellulose) calls to mind *celluloid*, introduced in 1869 by the Hyatt Brothers (Newark, N. J.),⁹ and which may be considered as the first practical plastic. The flexibility of celluloid interested at least one inventor, Theodore Kohler,¹⁰ to employ it as a support for the previously mentioned calcareous coatings, but we are more interested in those methods wherein celluloid and cellulose derivatives are used as actual printing surfaces.

Printing on celluloid had been performed in 1876 by the Austrian, Eduard Sieger,¹¹ but one of the first suggestions to print from celluloid was that of an anonymous French worker,¹² who proposed graining the surface by sandblasting, after which ether was to be sprayed on the celluloid to augment the grain. A solution of albumen and sodium silicate was then applied, and on drying, the sheet was to be immersed in a bath of sul-

furic acid and zinc sulfate until an even deposit had been obtained. The deposit was supposed to result in a flexible "stone-like" surface, which would accept greasy ink, and if treated with a gum etch, would absorb water and resist ink in the manner of a litho stone.

Basically considered, this was nothing more than an adaptation of so-called "stone coatings," the celluloid being used merely for its flexibility and light weight, together with a certain ease in graining. A departure from this procedure was devised by the Norwegian lithographer, O. E. Krell,¹³ who suggested treating the celluloid sheet in either dilute hydrochloric acid or caustic soda solution, then graining the surface with pumice or emery powder. The grained surface was washed with ammonia, following which a coating of collodion was applied. The celluloid sheet was then cemented to a glass plate by means of a film of india rubber (caoutchouc) and the whole heated at a temperature between 122°-150° F. to promote better adhesion.

HAVING established the historical use of cellulose derivatives as litho printing surfaces, let us glance at a few recent inventions in this direction. The review might be opened with the patents issued to the German firm of Kalle & Company,¹⁴ in which sheets of cellulose ester are saponified at the non-printing areas, the sheets being sensitized by incorporation of a chromate. Action of light (exposure) on the material renders the exposed parts more difficultly saponifiable, these areas then resisting the action of a saponifying agent applied to the non-printing areas of the image or base.

One notes a point of similarity

between the process of William B. Wescott¹⁵ and the Capitaine-Hertling effort previously discussed. Whereas in the latter a solution of collodion was employed as a vehicle (carrier) for powdered stone, Wescott proposes to coat a cellulosic base with firmly adherent particles of zinc, the interstices between the particles being covered with zinc ammonium phosphate particles to form an ink-resisting surface during litho printing. In effect, Wescott aims at a "cellulosic zinc plate," rather than the "cellulosic litho stone" of the pioneer idea. (A later patent of Wescott employs cellulose acetate as a laminating medium, of which more will be said in a subsequent paragraph.)

Instead of applying zinc particles, A. Ehrenthaller¹⁶ patented the idea of pretreating cellulose hydrate films with acetone to swell the cellulose, after which the film was coated with a solution containing a resin, gelatin, glacial acetic acid and alcohol. The coating was sensitized with a 5-10 per cent aqueous chromate solution, and the exposed print thereon developed in a warm bath of 50 per cent alcohol.

Another idea was that of A. Keller,¹⁷ who suggested direct sensitization of cellulose hydrate, cellulose ethers, or surface-hydrolyzed cellulose esters by immersing the sheets for 3 to 4 minutes in a 1-3 per cent aqueous chromate solution, with or without the addition of plasticizers such as glycerin. The sheet was then exposed to light from 2 to 10 minutes, then given a short final treatment with a 10-15 per cent aqueous solution of organic acid, such as citric acid or with alkalis.

A modification of the bromoil process as used by pictorialists and adapted to photolitho printing from

Here is a complete technical discussion of plastic and paper litho press plates

celluloid photographic films was patented by E. N. Baker.¹⁸ An exposure was developed on the film and the image "etched" to partially remove the gelatin containing developed (reduced) silver. The image so treated was then redeveloped, next bleached, and the surface hardened to form a litho surface on which only the unetched areas would accept ink.

The latest development in the direction of cellulosic surfaces for litho printing is the Caton invention, but in the interest of chronological continuity, attention must next be given to the use of casein as a plastic litho plate. Apparently the first to employ (1904) this material for litho purposes was the Dresden lithographer, Otto Berger,¹⁹ who proposed applying a coating of degreased and hardened casein on a support of stone or wood. In the event the coating was not sufficiently hard, it could be tanned by the action of formaldehyde.

Practically the same idea was patented in Britain by D. de Nagy and L. Pepe,²⁰ the patent also suggesting a film of gluten, applied to metal or other supports in sheet form.

Rigid supports for the casein coating were later dispensed with by Francis L. Simons,²¹ who advocated that a paper base be used as a support, and that the casein coating contain a filler (clay, calcium sulfate, lithopone, etc.), together with formaldehyde as an insolubilizing agent and a water-miscible solvent (methyl cellosolve) to promote firm anchorage of the coating to the waterproofed paper sheet. To finally prepare the plate, Simons recommended a coating of sodium silicate which, after interaction with the casein coating, was said to produce precipitated sil-

ica and to render the surface properly receptive to litho ink.

Casein plastics are somewhat hygroscopic and likely to be affected by atmospheric changes, a condition prejudicial to photolithography. The Simons surface is especially intended for work (drawings, typewriting, etc.) produced directly on the surface without the aid of a camera; if employed for photolithography, the inventor cautions that the colloid sensitizer must be either neutral or mildly acid in reaction.

Mention might at this time be made of F. Fischer's patent²² of producing litho printing plates by molding with a plastic (moldable) material, and of graining such surfaces by molding. This anticipated our suggestion made some time ago in this journal of making plastic impressions from a master grained plate for the purpose of producing a plastic litho plate bearing a grained surface.

THE idea is feasible, though it would entail use of a plastic with little or no tendency to absorb ink and which would maintain its dimensions and physical properties regardless of atmospheric and climatic conditions. Such a material would also possess high resistance to acid, and might possibly allow printing of different editions without necessity of regraining; this by the simple expedient of removing all vestiges of the previous work with a powerful ink

solvent, said solvent having no effect on the base and leaving the original grain unimpaired. In view of the steady progress being made in the field of plastics, who would be bold enough to definitely aver that such a material will not eventually be placed within the economical reach of the lithographer?

Returning to our review of plastic plates involving paper supports, a glance may be directed at the patent of Joe V. R. Shepherd,²³ based on the application of a casein-clay-formaldehyde mixture to a sheet of waterproofed paper, the clay or silicious material providing the required grain for the reception of litho drawing or marking material. With the exception of a few minor differences, it is difficult to discover any basic departure between the surfaces of Shepherd and Simons (U.S. P. 2,156,100), the latter's patent specification being much more specific as to the manner of actual plate production.

Now up for consideration is the patent of William B. Wescott,²⁴ previously referred to and comprising a cellulosic printing plate, characterized by a printing surface of dense translucent amyloid (acid-treated) parchment. The parchment is reinforced with a backing of strong kraft paper, a resin-plasticized cellulose acetate serving as an adhesive or laminating medium for cementing the

parchment and backing paper into a composite unit.

In producing the plate, the adhesive is applied to the parchment, the solvent of the cement allowed to evaporate, after which the backing paper is applied (laminated) by heat and pressure. The parchment readily absorbs water but resists disintegration by moisture; it also accepts greasy ink, but when moistened, it repels grease and resists the displacing effect of acidified fountain (damping) solutions.

The Wescott plate apparently is intended for small offset presses of the multilith type and like the Shepherd and Simon surfaces, is particularly adapted for direct (not photolitho) images. In fact, one of the claims for the Wescott surface is its adaptability for direct typewriting, coupled with the feature that erasures and corrections can be made on the plate in the manner commonly employed by typists.

THIS brings us to the *Lithomat* and *Photomat* surfaces of Gilligan and Mullen, and to the *Plastolith* plate of Bassist and Toland. The Gilligan-Mullen surfaces probably were the most publicized of any modern plastic litho medium;²⁵ they are the invention of Joseph E. Gilligan and William G. Mullen, who commenced experiments in 1931, their work based on an initial idea conceived in 1926 by Gilligan. As indicated by the names, their material takes two forms, but because of pending patent development and other developmental projects pertaining to the plates, we are not in possession of factual data concerning the exact character of the surfaces and the materials involved in their production.

It is certain that the *Lithomat* plate comprises a plastic treated tough paper base, intended for direct images such as litho and type transfers, typewriting, and drawings made with crayon, tusche or airbrush. The surface is said to yield an average edition of 20 to 25 thousand impressions from transferred designs, such transfers made by handling the *Lithomat* surface as one would ordinary proof paper.

The *Photomat* plate can be considered as consisting of a fiber base impregnated with a synthetic resin and bearing a colloidal layer (possibly polyvinyl alcohol) capable of being sensitized by bathing the plate in a chromate solution. After development and treatment of the image with a "Prymit" solution, the actual printing design is said to be slightly intaglio, this feature claimed to be controllable and sustained as a result of the Prymit application and the use of a fountain solution displaying a pH value ranging between 3.6 and 4. Halftone illustrations embodying 250-line rulings have been reproduced from the *Photomat* surface, though illustrations made with coarser rulings (120-133) would doubtless yield a greater number of impressions from the photolithographic halftone printing surface.

While the Gilligan-Mullen surfaces have been accorded the most trade publicity, the Bassist-Toland *Plastolith* plate has been the subject of the most patents. Some seven patents have been issued in the past two years to William Craig Toland and Ellis Bassist, the patents applying not only to a flexible paper litho support,²⁶ but also to sensitizers and methods of producing photolitho images thereon,²⁷ and to a special negative material of the contact type,²⁸ where-

with multi-design images can be obtained either by photographic printing, or by transfer of ink impressions, the latter procedure permitting image-conversion by recourse to light-exposure and what amounts to physico-chemico reversal.

If memory serves correct, the parent idea of the *Plastolith* plate originated about ten years ago; the thought of an abrasive paper as a litho printing surface was at first entertained, but this gave way to the idea of a resin-impregnated paper base, sensitized with a bichromated coating of polyvinyl alcohol. The joint activity of Bassist and Toland finally resulted in what is known as the "*Plastolith*" plate, a surface recently given trial as a litho zinc substitute by Army mobile field units, the trial under the auspices and supervision of the War Production Board.²⁹

Space does not permit a review of the various Bassist-Toland patents: suffice to say, the *Plastolith* plate comprises a waterproofed paper, laminated (bonded together) with polyvinyl alcohol or with a resin of the urea-formaldehyde type (Casco), and sensitized with bichromate solutions wherein polyvinyl alcohol serves as a photo-reactive "colloid" or vehicle. The sensitizer can be a plain aqueous solution of the alcohol in the presence of ammonium bichromate, or it may also contain supplementary materials such as calcium carbonate or china clay, in which case the coating or printing surface assumes relationship with the calcareous compositions of earlier inventors.

The *Plastolith* plate is intended for the reception of photolithographic images, as is also the *K-Tin* plate, which we shall now consider and
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THE RELATION OF LITHO INKS TO PAPER

By HERBERT J. WOLFE

A KNOWLEDGE of the relationships between ink and paper is of the utmost importance to ink maker, paper maker and lithographer, alike, if consistently good printing results are desired. The finest ink it is possible to make and the best grade of paper stock on the market may be run together with very poor results if the two are not designed for each other. The subject of the relationships between ink and paper is not as difficult as is frequently supposed. Like most technical problems, it only appears difficult when viewed as a whole, but when the problem is broken down into its fundamentals it is quite easy to understand.

Let us first examine the ink side of the picture. As most of us know, lithographic or offset ink is composed of an intimate mixture of pigments, extenders, varnishes, oils and metallic driers, with the frequent addition of waxy or greasy compounds to shorten or modify the ink. The function of the pigment portion is to impart color or opacity to the ink. The function of the extender, other than to perhaps lower the cost of the ink, is to impart more solids or body to it to improve its working properties. The varnishes and oils serve as the vehicles for the

pigments and extenders and impart the necessary fluidity to the ink. They also bind the pigment particles to the printed surface and, through their ability to change from a fluid to a solid upon combining with the oxygen of the air, they serve to cause the ink to dry. The metallic soaps of the drying metals such as the naphthenates, linoleates or resinates of cobalt, manganese and lead, are added to catalyze or speed up the absorption of oxygen, and thus serve to cause the ink to dry faster so that the lithographed sheets may be handled within a reasonable length of time without causing the ink to smear. The waxy or greasy compounds are added to relieve the stickiness, or "tackiness" of the ink, to reduce offset and to improve its general working properties.

In any printing or lithographic ink, the adhesion of the ink for the rollers, blankets, plates and paper must be greater than the cohesive forces present in the ink, otherwise it will not distribute properly and will pile or "cake" on the moving parts of the distributing system. For this reason, inks that contain pigments of high specific gravity must be formulated with more viscous vehicles than inks containing pigments of low specific

gravity in order to impart the necessary adhesion and carrying properties to the ink. In the printing operation, as the inked plates or blankets contact the paper and are withdrawn, the ink film is ruptured, part of it being transferred to the paper and part of it remaining with the plates and blankets. This rupture of the ink film does not consist of a direct, sharp break as might occur with the breaking of a solid material. Rather it consists of the ink film being pulled out into threads, or "necks," which break at their narrowest parts. In general, the thinner or more fluid the ink, the longer will be the "necking down" effect before the film ruptures.

THE physical properties of an ink which influence its printing or lithographing characteristics most greatly are its viscosity and its yield value. Thixotropy is also a factor. Viscosity is a measure of the internal friction of an ink caused by the cohesion of the vehicle and the rubbing of one particle over another. It is measured by the resistance to flow of the ink after a certain definite force (the yield value) has been applied. In common terms it might be called the fluidity of an ink. Yield value is the force which must be applied to

just cause an ink to flow. It is a sort of permanent "butteriness." In very thin inks, such as certain letterpress inks, the force of gravity is greater than the yield value and such inks will therefore level out or flow without the application of any additional force. This does not mean, however, that these inks have no yield value. Thixotropy, on the other hand, may be thought of as a sort of "false body" which upon agitation of the ink is temporarily destroyed, but which reforms again when the agitation is discontinued. In other words, it is a reversible gel, believed to be caused by the electrical charges present on the pigment particles.

In the printing or lithographic operation, the rotational force of the rapidly revolving rollers greatly exceeds the yield value of the ink and overcomes, temporarily, any thixotropy present. The ink therefore breaks down and becomes more fluid. This fluidity enables it to distribute readily and completely on the moving parts of the press. After the distributing rollers have applied the ink to the printing plate, which, in turn, applies it to the blanket, there is a very brief interval before contact with the paper is made during which it has a slight opportunity to again exercise some of its yield value. This tends to prevent the ink from running too freely, or mottling, when it contacts the paper. This factor is of more importance in letterpress printing than in lithography due to the relative thinness of letterpress inks, however, it is also of importance in lithography. Yield value may be thought of as a brake on the fluidity of an ink. The necessity for a certain amount of shortness in the consistency of an ink may be illustrated graphically if one tries to print or lithograph on a hard-surfaced, non-absorbent paper stock with a straight heat-bodied oil containing just sufficient color to render the printing visible. Such a varnish ink will have practically no yield value and will be almost a pure viscous liquid. It will be found, in general, that the printing results will be very uneven and badly mottled. There is a double reason for this, first, the fluidity of the

ink causes it to form relatively long "necks" during the printing or lithographing operation, and the "necks" on dropping back on the paper result in uneven film thickness, or mottling; the second reason is that the ink will not stay "put" when it contacts the paper, but will tend to flow into the hollows of the paper surface, or into the more highly ink-receptive areas of the surface. In the phraseology of

Mr. Wolfe is the author of the widely used book in the field of ink manufacturing, *PRINTING AND LITHO INKS*, and is vice-president in charge of research at Kienle & Company, Brooklyn, ink manufacturers. This article is somewhat parallel to an address given by Mr. Wolfe at the graphic arts session of the annual convention of the Technical Association of the Pulp and Paper Industry, in New York, February 15, but has been revised completely by the author to deal with lithographic inks and paper.

the pressroom, the ink will be said to "crawl." If, on the other hand, this type of "varnish ink" is used on a highly absorbent stock the printing results will be quite good. Here part of the ink is absorbed into the surface of the paper before it has had an opportunity to mottle. Generally, the application of a light film of ink will also tend to prevent mottling, since there is then not enough ink to cause long "necks," and the small amount of ink applied is not sufficient to run. Mottling is more prevalent in letterpress printing than in lithographic printing because of the thinner films of ink applied in the lithographic process, and also because in offset lithography the rubber blanket conforms to any slight unevenness of the surface and therefore applies a more uniform ink film to the paper.

IN general then, since a thin ink will yield relatively poor printing results on a non-absorbent stock, we may say that the more absorbent the surface of the stock, the thinner may be the ink for best printing results. The limiting factors here are the viscosity of the ink and the non-picking qualities of the paper surface. If the ink is too thin, it will probably be deficient in color strength, neces-

sitating carrying a heavy volume of ink with resulting ragged lines, clogged open work, mottled solids and introducing the danger of offsetting and smearing. A too-thin ink will also not distribute as evenly as an ink of correct viscosity and yield value, because of its very low cohesion and adhesion. If on the other hand, the ink is too heavy and viscous for the stock being printed, it will tear the surface fibers or coating from the base stock and cause rapid filling in of the work due to the loose fibers or coating material picked up by the ink being transferred to the blanket and plate. For this reason the consistency of an ink must always be matched carefully to the stock on which it is to be used.

As has been intimated, as the surface of the paper stock becomes harder and less absorbent, more and more yield value is required in the ink to give optimum lithographing results. An increase in viscosity is also necessary to provide proper distributing characteristics, since an ink of high yield value and low viscosity would be too short and butterlike to distribute well. All this leads up to the rule generally followed by the ink maker which is *to make his inks of as high viscosity and yield value as is consistent with the paper to be lithographed and the speed of the press it is to be run on*. Obviously, a faster-moving press will require a thinner ink than a slower-moving press because of the time factor involved in the mathematical formula for viscosity. At high press speeds the ink tends to exert a greater pull on the surface of the paper and this must be allowed for if picking and tearing are to be avoided. Large solid areas also call for a less viscous ink due to the larger area from which the ink must be pulled by the paper.

WITH the above generalizations in mind, we may now logically consider the characteristics of paper which influence its printing and lithographing properties. Careful thought will indicate that the most important characteristics are: 1.

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1100 Hear GPO Plans for Offset Jobs, More Warehouses, and Faster Payments

OFFSET lithography is being used in the newest phase of the government's tremendous ration printing program and 2,500,000 charts, each 17 x 22, are being printed in commercial lithographic plants in connection with the use of War Ration Book No. 2, recently placed in use. This job, to be done in seven printing areas, for nationwide distribution, was revealed by Hon. A. E. Giegengack, Public Printer of the United States, as he addressed a dinner meeting of the graphic arts industries of New York, February 16, at the Hotel Biltmore.

Eleven hundred attended the meeting, and 800 more were turned away by lack of space, according to the New York Employing Printers Association, which was in charge of arrangements. Mr. Giegengack also told of new methods being used by the Government Printing Office for speeding up payments to commercial plants for contracted work, he stated that New York offset platemakers would be coming in for a share of GPO work, and told of field warehouses already in operation and others which are planned.

At a similar meeting January 29 of the Graphic Arts Association of Illinois, Chicago, Mr. Giegengack presented much of the same information, although the ration chart program was not described at that time. (An account of the Chicago meeting appeared in *Modern Lithography*, Feb., page 49.)

Of most interest to the many lithographers who attended the New York meeting, was Mr. Giegengack's

Eight hundred turned away in New York mass meeting as Public Printer Giegengack speaks to record crowd of lithographers, printers, and representatives of allied graphic trades

description of the offset work which is being contracted. Of this he said:

"The newest phase of the ration printing is the production and distribution of some 2½ million 17 x 22 point-value charts in connection with inauguration of Book 2 use. These charts will be offset (I decided this would be more practicable than letterpress) and will be sent to every one of the 45,000 post offices in the United States through 16 central post offices in seven printing areas. Point values, more than 800 items, will go out from the Government Printing Office by night wire at midnight of a specified Sunday of the month to Government Printing Office representatives in the contractor's plant. The contractor must have proof ready by 5 p.m. Monday to be checked against copy also sent to the Office of Price Administration representative there. Okay for press must be ready by 8 a.m. Tuesday. Presswork must begin at once and must be completed in time to permit folding, inserting, and labeling for parcel post delivery so that every corner grocery in the land can receive the point values at the same time on the following Monday morning.

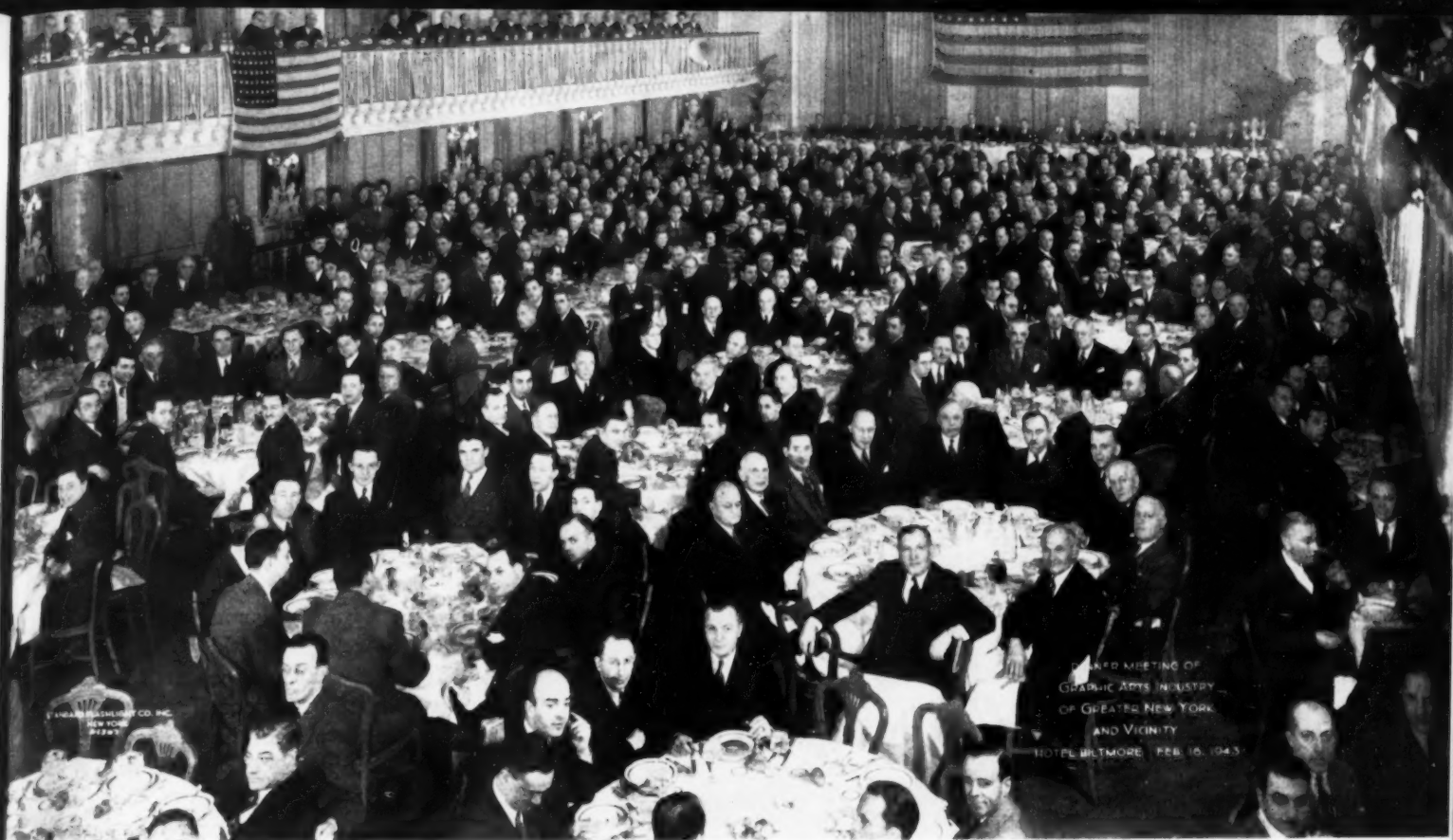
"Inserting and addressing is a job too. Eighty per cent of the 2½ million will go out in envelopes in tens and twenty-fives. The remainder will be bulk shipments. New York printers have contracted to handle 650,000 copies—17,500 shipments.

"The G. P. O. will furnish the printer exact size reproduction proofs, with the 830 boxes blank, and proofs of figures on gummed stock for pasting up his master copy. Where camera equipment is too small to shoot the

whole job, it can be halved or quartered. The form can also be quartered for a division of the work of pasting up. All operations must be performed with absolute secrecy to prevent the black markets from getting information."

REGARDING payment by the government for printing done in commercial plants the Public Printer explained that no payment could be made until all laws and regulations are complied with, so that the payment will be acceptable to the General Accounting Office. He outlined three major causes for delayed payments, as follows:

"One of the most common reasons for delayed payment is the unbusiness-like way in which additional charges are billed by printers. In some cases contractors will perform on their own initiative additional operations not covered by the original specifications. Perhaps the operations are necessary, but obviously printers should not undertake them until written authority has been granted by the Director of Purchases. I admit that some of the confusion may be attributable to the Government, as for example where a printer may contact the Washington Office and obtain verbal authority by telephone for an additional operation. If through the pressure of work this authority is not immediately reduced to a supplemental purchase order as should be done, there will ultimately be a delay. Here it is our fault, but



Part of the "biggest graphic arts crowd on record" in New York, 1100 attended.

the contractor can help by insisting that every verbal instruction involving a change in price be immediately confirmed by a formal written purchase order. If this is done, when your bills are submitted, payment can be made promptly. The money will be in the printer's hands long before it would be if he is indifferent in securing the appropriate formal authority required by the General Accounting Office.

"Another cause for delay in making payment is attributable to the lack of information on printer's vouchers. Take for example, the case of accelerated deliveries authorized after the original purchase order has been issued. In planning work we avoid overtime because of the increased cost entailed. Usually sufficient time is allowed for a contractor to perform the job without resorting to overtime. It may sometimes happen, however, that a paper mill or other supplier is unable to deliver the contracted article needed for the work on schedule, in which case it becomes necessary to authorize overtime work by the printer. When this is done, the Government Printing Office issues a supplemental purchase order authorizing overtime work, and agrees to pay the amount of the additional expense incurred by the contractor. In some cases contractors have merely made rough estimates of such cost in round amounts, and in other cases they have undertaken to charge the total paid,

that is, the amount for both the basic rate and the overtime penalty, not merely for the overtime payment. In some cases a completely new and unsubstantiated figure is submitted. Such courses of action merely delay pay-

Other Meetings Planned

Similar meetings of the graphic arts industries in other cities where Government Printing Office field warehouses are to be placed in operation will be held later on, according to information received by MODERN LITHOGRAPHY from the Public Printer. The dates are not yet arranged however, Mr. Giegenack stated that the talks would be "along the same line" as the talks in Chicago and New York. Other field warehouses are being organized in Baltimore, Atlanta, Dallas and San Francisco.

ment of bills. Additional charges must be supported by itemization of the additional cost. For this class of transactions we have provided a special form, No. R-2198, similar to that used by other Federal agencies.

"The third cause of delay in payments, inability to secure receipts by printers, is the most common reason. The procurement of printing commercially is comparatively a recent arrangement, having been used only in the last year or so on a large scale. The requirements for receipts evidencing delivery has been the cause of worry to many contractors—particularly in those cases where large orders

are involved with numerous points of distribution.

"Under procurement law and regulations, the certifying officer of every Federal department, including the Government Printing Office, must certify that the Government has actually received the articles or services for which payment is being made. In view of this legal requirement, you can see why it is necessary for the certifying officer to secure, in support of his certificate, an executed receipt of the consignees, which form in our case is called Notice of Shipment—Confirmation of Delivery, Form 2196.

"Unfortunately, the field units of some departments do not always promptly execute and return to the contractor confirmation of delivery forms. As time goes on we expect the field units of the departments to obtain a better understanding and immediately mail the receipts to consignors. The Government, moreover, is not always at fault in respect to delay on delivery receipts. It sometimes happens that the contractor neglects to send out the receipt forms which we have furnished and have instructed him are required as a basis of the certificate of the receiving officer. In this way the printer's oversight causes payment to be held up until proper receipts are obtained. In either case, however, the contractor, who has paid out his money for labor

and materials, needs the pay for the job."

Two changes are being made in the financial procedure, Mr. Giegengack said. They are:

"1. If a contractor has completed an order of a value in excess of \$2,000 and has sent out the Notices of Shipment—Confirmation of Delivery, Form 2196, as required by the Government Printing Office purchasing regulations, and has received back one-half of the forms, or more, from the consignee Government units, he may send in such forms with a voucher and immediately receive a pro-rata payment from the Government. Furthermore, if he is unable later to obtain all the remaining receipts for shipments he has made, and he has filed the triplicate copies as required with the Government Printing Office, on request of the printer our Office will thereupon communicate with the department, seeking to expedite submission of remaining receipt forms, so that the full amount of the remaining balance can be paid to the contractor.

"2. If an order exceeds \$5,000 and the contractor has made complete delivery as required by the purchase order and wishes to receive an immediate payment on the account without waiting to secure receipts from consignees, he may thereupon make application and receive a progress payment under Title II of the First War Powers Act, by furnishing satisfactory bond. The printer's application should be accompanied by a voucher and a certificate setting forth details of shipment, such as the name and address of consignee Government units, railroad or other carrier, car number, and recorded weight of the shipment, which must be supported by either the original or a photostat of the paid freight or express bills. Upon receipt of the voucher and supporting certificate, if all other conditions are met, the Government Printing Office will immediately make payment to the contractor, not to exceed 90 per cent of the total value of the contract. The remaining 10 per cent due the printer will be withheld until he has established delivery for all shipments by submission of completed Notices of Shipment—Confirmation of Delivery, Form 2196."

The speaker further outlined a plan for eliminating the prepaying of freight charges by commercial plants, as follows:

"On certain kinds of contracts the Government Printing Office has required the printer to pay freight or express charges, and then reimbursed him upon proof of delivery. This

form of arrangement has been used only on that type of printing where the contractor could not bid on job delivered f.o.b. point of destination, as is usually required in competitive bids.

"On the special contracts on forms or manuals, where the Government Printing Office stands the cost of transportation from the plant to the consignee, our future policy will be to furnish the contractor prior to time of shipment a Government bill of lading, so that the printer will not have to make any outlay for the transportation. The Government bills of lading will be prenumbered, so that you will have to account for each bill of lading on an order. As each shipment is made, a bill of lading will be prepared by the printer. The bill of lading and the necessary copies will be prepared in accordance with instructions issued by the Government Printing Office. I have no doubt this change in our procedure will be welcome to those printers who in the past have had to make sizeable outlays for this purpose."

FIELD warehouses for the speeding up of work have been established in Chicago and New York, and similar units are planned for Baltimore, Dallas, Atlanta, and San Francisco, Mr. Giegengack stated. Leonard Gates, director of the New York warehouse, was introduced.

"From now until the war is won awards on standard-rate contracts will be made directly to qualified printers through the warehouse. This decentralization will save us several days on every job. It will work like this: The warehouse supervisor will maintain files of those printers who have agreed to accept the established rates and will award the work in rotation. When any printer's awards reach a total of \$5,000, his name shall be skipped in rotation until all other contractors have received an equal amount. Plates for New York printing will be ordered from New York platemakers in the same general way. This is only for **must** work. Where time will permit, we will continue to purchase by competitive bid, again rotating the opportunities among qualified firms," Mr. Giegengack explained.

The Public Printer reiterated his pledge not to expand the government facilities in an effort to produce all of the work in Washington, stating that equipment purchases have been limited to maintenance, and employment clerical and administrative groups has increased only 10 per

cent. Quoting again the figures which he gave at the Chicago meeting, Mr. Giegengack estimated that 1943 dollar volume of GPO to amount to \$60,000,000 of which \$35,000,000 will go to commercial printers. Of the \$32,000,000 worth of printing secured thus far by the government, \$4,162,442, or approximately 12½ per cent was done by 224 contractors in New York. This amount was slightly less than that done in Chicago, which had the largest share of any city, a comparison of figures showed.

However, he stated that a larger share might be coming to the New York area through the operation of the local warehouse which has been established only about four months. "Up to the present time we have sent you GPO plates, he said. "Now New York platemakers will be coming in for a share." In answer to a later question on this point, Mr. Giegengack said this included offset plates as well as other types of printing plates.

MOST government contracts are not suited to smaller plants, he said, explaining,

"Early in the war I made a very special effort to fit some job into every plant that had a reasonable amount of equipment, but it wouldn't do. Our work is too urgently needed, quantities too large, deliveries too widely distributed to permit much of it to be produced in small plants. The little printers' next question is, 'Why not permit us to pool our equipment?', and the answer is much the same. Invaluable time would be lost while paper was being cut to vertical press size, allocations made among constituents of the pool, and duplicate plates made. There would be no fixing of responsibility. If we let a dozen printing firms print one signature each, the completion would wait on the slowest printer, we couldn't know whom to hold responsible for the loss or spoilage in the bindery, and in the meantime the war effort suffers for lack of a Training Manual."

He touched on Executive Order 9240 which deals with overtime wage payments affecting contractors with the government, and stated that these requirements are applicable to the GPO contracts.

(Continued on Page 63)

some pointers on avoiding

WASTE

By **LAWRENCE J. GRENNAN**

Offset Printing Division, Hartford Fire Insurance Co.

THERE is an important job to do in the lithographic industry at the present time which can best be done by the men in the shop. Due to rationing of paper and restrictions and priorities on other materials and supplies, the most careful judgment is required in the use of these materials. Another factor which makes elimination of spoilage important is the extra costs of today compared with pre-war prices. In many cases this extra cost cannot be absorbed in any increased price on the finished job, because of the price ceiling.

Many shop employees, especially those who are new in this field, may have little conception of what the materials are worth in dollars and cents, which they are handling every day. It might be advantageous for the management of lithographing plants to post a price list of major supplies in a conspicuous place in the various departments. This will enable the employees to learn just how much actual money goes into the waste containers and out the back door every day, and serve as a reminder that many of these materials are not as easy to obtain as in the past.

There are numerous ways to avoid waste of materials in both large and small litho shops. There are many

shops that employ the method of pulling positives on cellophane or tissue from type. On a job-press or proving-press these procedures work well. Transfer etching and crayon-ink are used, half and half with enough demar-varnish so that the ink is of a tacky consistency. These inks do not spread or smudge as readily as most inks when they come in contact with hard surfaces, such as cellophane. The demar-varnish works well, as it has good tack and adheres readily to hard surfaces. When using cellophane it is advisable to powder the image with lamp-black, making it more opaque. Use the ink on the press sparingly as too much ink will plug or smear the image, thereby holding back the light during the process of making the negative, and producing a negative which is too sharp.

A very efficient way to make negatives to save time and chemicals will be to let the positives accumulate, then process all at one time. Of course the chemicals can be saved by pouring the solution into a bottle. As a general rule the line of least resistance has been used by throwing the entire solution away.

Care should be used when squaring the negatives. Make sure the cutting marks are square with the work. If

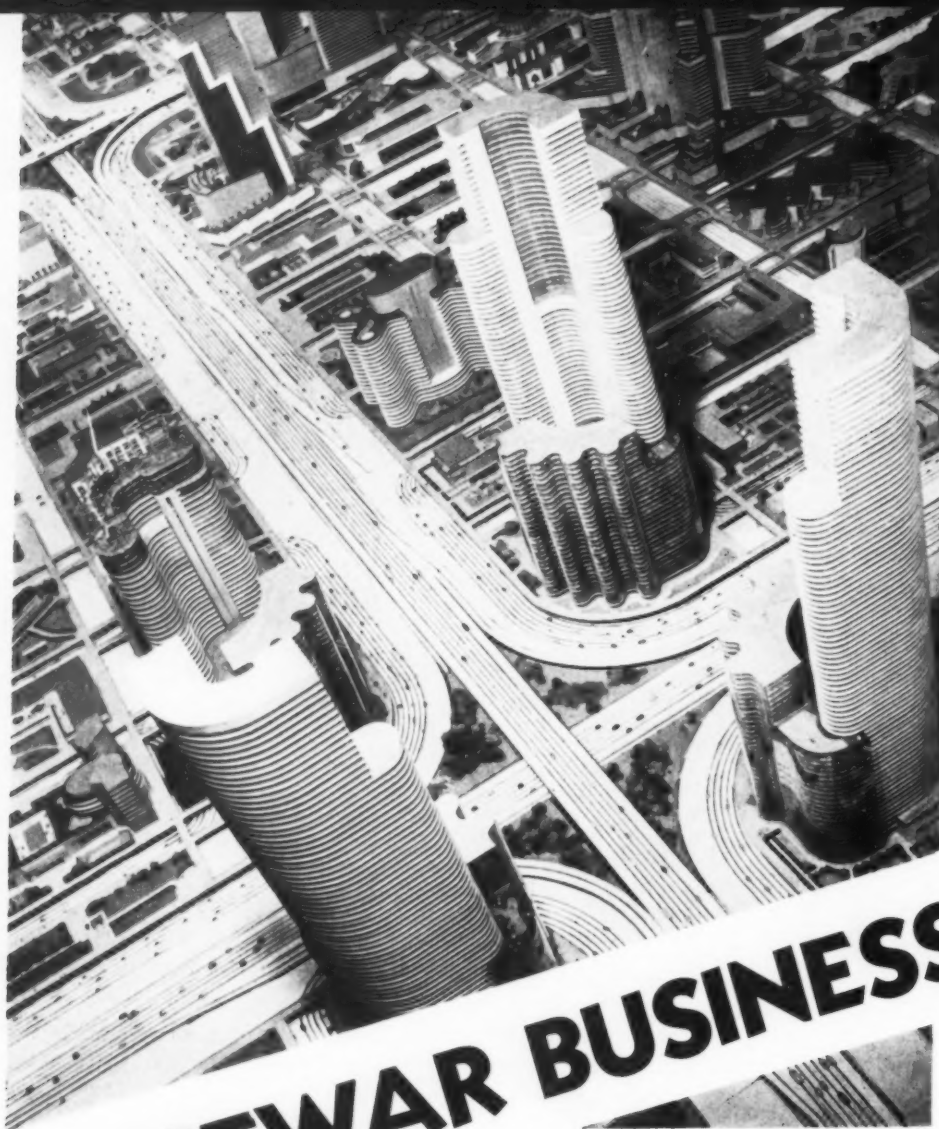
there is opaquing to be done, the person on the job must be thoroughly competent. Letters carelessly or accidentally stopped out, either mean a plate to make over, or re-touching.

Photo composing machine or vacuum frame operators have to be level-headed. They have a job that requires considerable thought and foresight. They must anticipate the next day's preparation of supplies as well as the present one, by knowing about how many plates are to be made the next day. In order to cope with this situation, the albumen and dichromate are prepared and dissolved in separate graduated glasses through the night, enabling the plateman to use fresh solution every day. We do not advocate the use of old plate coating solutions as there are many chemical reactions that take place causing spoilage of plates and chemicals.

Clean plate-whirlers should be insisted upon, as small particles of albumen and dichromate often fall on to the freshly coated plates, causing spotting and a faulty coating.

Plates, to be photographed, should be placed on the pressure board square. By this, we mean the gripper edge of the plate should be parallel to the parallel travel of the negative.

(Continued on Page 67)



A symbol of the postwar world is this scene from the famous General Motors Futurama, first shown at the New York World's Fair and now at the New York Museum of Science and Industry.

POSTWAR BUSINESS—NOW

General Motors Photograph

by

HARRY A. PORTER

Harris-Seybold-Potter Co.

IN any discussion of specific marketing opportunities, there should be no place for vague generalities and plans that avoid the specific determination of the situations and conditions that are under discussion. Too often the green hill far away is so indistinct that focusing attention upon it exclusively tends to obscure the practical and near-at-hand evaluation of often overlooked opportunity.

There can be a very happy balance between future vision and the realities of the present. The lithographic business, like any other, lives not alone by envisioning the future, but by cashing in on the specific realities of the present.

The writer wishes to call attention to an immediate, war created opportunity for lithography that is all around. To a large extent it is new business that has not existed either in its present form or its present ex-

tent before. Furthermore it is timely business—business that involves creative selling and for which there is a market in many of America's 186,000 factories and 2,600,000 other business enterprises.

It is not essentially "price" business. It is business for the lithographer that once undertaken will multiply itself through the enduring profit of the firms for whom it is done. It is business that indirectly, so far as this is possible during a war era, has the blessing of government. It is business that will help in the long haul to feed our 130,000,000 population, to provide them gainful employment, and perpetuate the American system of free enterprise and the American way of life.

Specifically the writer refers to the potential lithographic business in post war planning that now holds the cen-

(Continued on Page 67)

MODERN LITHOGRAPHY



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War Board Postpones Second Printing Paper Cut to July First

Bulletin

On March 4 the War Production Board announced that there will be no further curtailment in the use of print paper for commercial printing, newspapers, magazines, and books at least until July 1. This move came as a result of larger pulp production than was expected. The announcement was made jointly by A. G. Wakeman, director of WPB's pulp and paper division and Canadian authorities.

Other events on the paper front during the month included a blast at the government's heavy use of paper, by Senator Willis, Indiana Republican, who accused the government of shamefully multiplying its consumption of paper while the nation's press is ordered to curtail its use of paper. Walter D. Fuller, president of Curtis Publishing Co., publishers of the SATURDAY EVENING POST, made an appeal for newspapers and magazines to be rated as essential. Meanwhile Congressional groups were starting to investigate the reasons for the paper curtailment orders.

PREDICTION of another 10 per cent cut in the use of printing paper April 1, by A. G. Wakeman, Chief of the Pulp & Paper Section of the War Production Board, was the high point of interest to the lithographic industry in the week of assorted paper conventions held in New York, February 14 to 19.

Addressing the American Paper & Pulp Association at the Waldorf-Astoria, Mr. Wakeman said: "Printing papers, covering the whole field from super book to envelope, tablet, and

post card, and including groundwood paper, are now operating at 80 per cent of the peak period (manufacturers—Ed.). . . . This means further curtailment in use to absorb the difference between production and consumption. We hope to be able to do this on a gradual basis, reviewing the problem of supply available regularly. Another cut in consumption in the neighborhood of 10 per cent at the end of the first quarter is indicated."

As for fine papers, he said: "The requirements for fine papers are higher, percentage-wise, than the printing papers in general. Bleached pulp being one of the items of which we are short, it is inevitable that a cut in the future will be necessary. The balancing of these grades will have to be done from now on by types of paper. Some grades will be held at present production, others will move down, all according to relative essentiality. The overall result will be a cut of about another 10 per cent at the end of the first quarter.

"Last March we had 124,000 tons of bleached pulp to allocate; last month we had only 88,000 tons to distribute to the paper industry. This will indicate to you what the trend in

this type of paper will be—27 per cent less pulp, to be exact. However, we produced last month at a higher level; but we couldn't use it for paper, much of the balance was reserved for explosives."

Mr. Wakeman outlined the underlying reasons for the paper reductions saying that the major claimants for paper and pulp are the Army's direct military needs; the Navy, including Coast Guard, Marines and Maritime Commission; the Lend-Lease Administration; and the Board of Economic Warfare. The major claimant for paper and board, he said, is the Division of Civilian Supply whose requirements represent about 90 per cent of the total tonnage. He stated that this section of the War Production Board takes care of civilian needs as well as the indirect war needs of the government. He also predicted further cuts in newsprint.

In the graphic arts session of the convention of the Technical Association of the Pulp and Paper Industry, held at the Commodore Hotel, a number of papers were presented which were of interest to the lithographic trade. They were: Beater Practice in the Manufacture of Lithographic Papers, by C. G. Weber, M. B. Shaw, and M. J. O'Leary; Ink Drying as Affected by Various Paper Stocks, by M. J. Leckey, Sinclair & Valentine Co.; Applications of Lithographic Processes to War Work, by W. H. Wood, Harris-Seybold-Potter Co.; Printing Papers, by L. W. Claybourne, J. W. Clement Company; and

(Continued on Page 65)

Nation's paper industry, convening in New York, hears of further slashes due in printing papers and fine papers, studies graphic arts problems

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THE WAY
IT LOOKS IN



Washington

CONSIDERABLE discussion has developed over what constitutes a "bedrock" economy, and there has been a great deal of misunderstanding concerning what it will mean to specific civilian industries. The report on a bedrock economy which was made by the Division of Civilian Supply of the War Production Board served the purpose of highlighting the extent to which normal civilian industry could be squeezed under the most adverse conditions of a war economy. There is no immediate prospect that the economy will go down to bedrock, but if the war should continue for several years, many of the suggested minimum production levels may become necessary.

Details of the report were not released officially as a report. In fact, it was emphasized that the report was merely suggestive and tentative—an outline of what could develop under the continued duress of war.

In view of the fact that the report deals largely with the production of commodities used by the ultimate consumer, there is no direct effect on the commercial printing industry in terms of bedrock, with the exception of the implication carried in respect to items used by the lithographer.

It was suggested in the report that as a bedrock minimum, production of stationery, tablets and allied items should not fall below 30 per cent of

by

JAY A. BONWIT

1939 production levels. Inks and adhesives should also be held to the 30 per cent level, it was suggested. In the case of stationery, it was pointed out that in spite of the increasing essential needs for paper in time of war for use in correspondence and household management, elimination of waste could account for a 20 per cent curtailment.

In the proposed bedrock economy, greeting card production would be cut to seven per cent of 1939 levels. Production would be restricted entirely to Christmas cards. It was stated that the curtailment is based on standardization and simplification which would limit the unit weight to that of a postal card, correspondingly reducing the value, and eliminating all except Christmas cards.

Production of books and pamphlets would be cut to 40 per cent of the 1939 level, with the Division of Civilian Supply pointing out that it should be remembered that in wartime, there is an increased amount of informational material prepared by the Government, and increased textbook distribution is not reflected in the report. However, it is explained

that shortages of paper and of manpower will have the effect of making books more concise.

Bedrock production of maps and atlases and similar products would be cut to four per cent of the 1939 level. Permanent map buying, it is suggested, other than by the Government is at a minimum during wartime, and use of road maps and guide books is diminishing because of wartime restrictions on travel.

Moreover, the suggested minimums to which the civilian economy could be squeezed under necessity of bedrock conditions extend to a large degree to the commodities industries serviced by the lithographic industry. The suggested minimums vary with the degree of essentiality to the welfare and morale of the nation.

However, it is generally indicated in Washington that the discussions of the terms of a bedrock economy are somewhat academic at this time. WPB Chairman Donald Nelson has expressed himself to the effect that the economy could equip the number of men in the armed forces requested by the military, and still maintain a healthy, if somewhat somber, economy.

NOTWITHSTANDING the possibilities of the bedrock economy, restrictions over the commercial printing industry, including the lithographer, were relaxed by the War Pro-

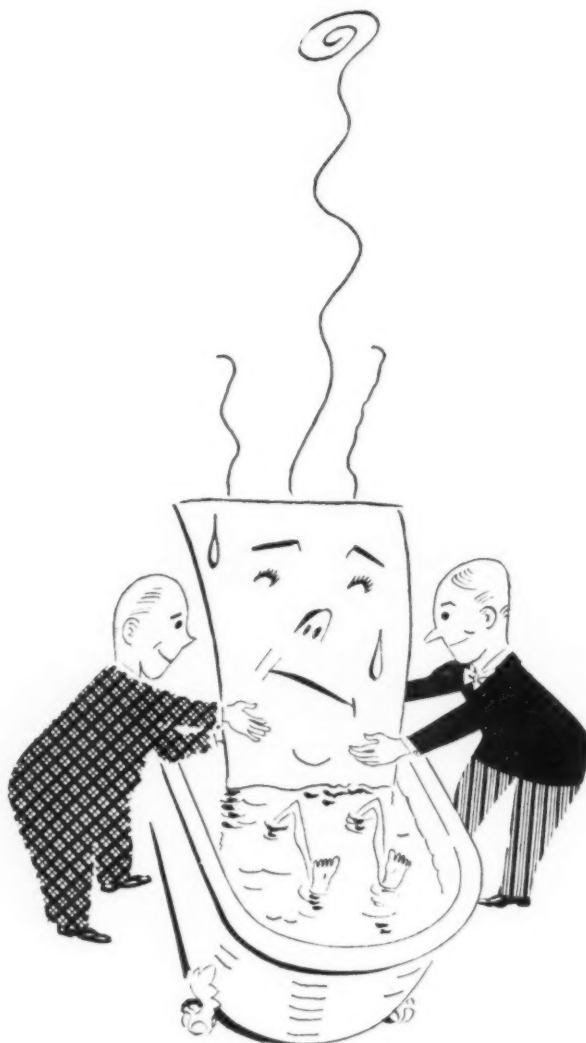
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duction Board, following recommendations along the lines ordered as made by the industry. The Commercial Printing Section of the Printing and Publishing Industry Advisory Committee among other recommendations, suggested the granting of certain exemptions for the production of printed matter for direct needs of Government departments and agencies, for war contracts, and for public utilities, as well as for the functional operations in connection with federal, state, county or municipal tax laws or regulations.

THE recent amendment to L-241 carries out these recommendations by exempting from the paper limitations the following:

"Printed matter produced by or for the account of any department or agency of the United States, its territories or possessions, or any state, county or municipality in the United States; and such printed matter as shall be either: required by the contract between a supplier or contractor of any department or agency of the United States and such department or agency; or necessary for the production of, the delivery to, or the use of products by any such department or agency.

"Printed matter produced by or for the account of any public utility necessary for the functional operation of such utility including but not limited to railroads, bus companies, motor transport companies, air transport companies, communication companies, gas, water and electric power companies.

"Printed matter required by law in connection with any federal, state, county or municipal tax laws or regulations."

The amendment will make it possible for lithographers to operate quota-exempt on items required by war industries and the Government.

At the same time, the Printing and Publishing Division points out that this is a good time for factors in war industry to make certain conservation

measures, including the substitution of lighter weight paper where possible. In this connection, lithographers can be of service by making these conservation suggestions in the interest both of the war effort and of more efficient operation of the plants. Changes in inventory restrictions were also made by the amended order. Printers and lithographers may maintain inventories of any one grade of paper not to exceed two carloads, or if the inventory exceeds two carloads, it must not exceed 60 days' supply. In the case of newsprint, it is two carloads or a 75 days' supply.

Postponement of the second scheduled curtailment of newsprint, which would have become effective April 1, indicates a more encouraging paper outlook for commercial printing papers.

While there is no direct connection between the two factors, a more favorable pulpwood supply picture from Canada indicates the general paper situation, and it is likely that further cuts in papers other than newsprint may also be avoided for the time being. The newsprint curtailment postponement was based on the fact that a greater volume of wood has been cut in eastern Canada than had been expected, thereby easing the situation for the time being. However, the WPB recommends continued economy in the use of papers.

The WPB survey of casein stocks in the nation has been made with the possibility in mind of a shortage of casein. Discussion of such a possibility arose about a year ago, but at that time the shortage did not develop.

There is a possibility now of a shortage in view of the fact that domestic supplies of skim milk are being diverted to powdered milk and away from casein production. Also no great increase in imports can be expected.

An amendment to Limitation Order L-226, which controls the manufacture and sale of printing machinery and parts was issued by WPB on February 10 and simplifies application of the order. Transactions amounting

to less than \$25 in graphic arts machinery, as listed in schedule A of the order, are exempted from restrictions and record work which applies to parts selling for more than \$25. It also provides for certification of the scrapping of old parts at the time new equipment is purchased, instead of 30 days after shipment as was required by the original order.

Another step in the decentralization of WPB's activities was taken when an administrative order was issued by Donald M. Nelson. It provides that after March 1 applications for priority assistance on Form PD-1A be filed with the nearest of the 131 WPB district offices. The 12 regional offices of WPB were also authorized, effective March 15, to assign preference ratings on PD-1A certificates to deliveries of materials valued at \$100 or less.

All limitations on production of container board, folding box board, and set-up box board were removed by WPB in an amended order, and removed these paper products from the restricted percentage list and added them to the unrestricted list. (Lists A and B, respectively.)

The use of thermoplastics in the manufacture of certain articles, some of which are produced by lithographers, was prohibited in an amendment to General Preference Order M-154. Except for thermoplastics which were in the manufacturer's inventory prior to June 27, 1942, or which were in process of manufacture into these articles on that date, this plastic material may not be used in advertising printing, containers and packages, signs (war use exemption), plastic book-binding-comb or spiral type (war use exemption), calendar cards, and playing cards (war use exemption).

Appeals should be made by sending a letter in triplicate, referring to the particular provision and stating fully the grounds for appeal. Communications concerning this order should be addressed to WPB, Chemicals Div., Washington, D. C. Refer to Order M-154.★ ★



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MODERN LITHOGRAPHY

Shop Talk

By I. H. Sayre
Technical Editor

"TO PREVENT oxidation of zinc plates in hot humid climates, it is best to store them under chemically inert coatings such as may be found in the polyvinyl alcohol class, or under mesquite gum, larch gum, and the water soluble methyl and ethyl celluloses," to quote W. H. Wood, of Harris-Seybold-Potter Company. Hydrogum, a product made by this company is made of mesquite gum. Mesquite gum will not desensitize a zinc plate to ink, and can best be used as a protective coating to gum up plates for storage, or to gum plates during printing when the press is stopped. Gum arabic is still needed for making desensitizing etches.

Tropical weather conditions speed up chemical action so that etching time as well as exposure time should be shortened. Preservatives have to be used to prevent molding and fermentation and all solutions have to be mixed more frequently to keep them fresh.

In freezing temperatures the opposite trouble is encountered. Gum and albumen solutions should not be allowed to freeze as this makes them unfit for use. If etches are used at a temperature near freezing, they need

to be stronger as chemical action is retarded by cold and their reactivity with the plate surface is lessened.

Mixing and Matching of Inks

The only published work on this subject that we know of at present are articles appearing in *American Pressman*, December 1937, and *American Ink Maker*, February 1939. The latter publication is affiliated with *Modern Lithography*.

A Substitute for Regraining

No plate cleaning solution can replace regraining for producing a new clean grain on the plate, but several plate cleaning solutions have been used successfully where there is not too much work to be removed and where the grain is still in good condition. Albumen images have been removed with the following solutions and the plates recoated three or four times before regraining was necessary. These clean-up solutions are never wholly reliable, however, and unless a thorough job is done a ghost image of the previous work may show up during the run. The following have proven most satisfactory:

1. Sodium hydroxide. .100 grams
Methyl or ethyl
alcohol1000 cc.

- or 2. Chlorox (sodium hypochlorite)2 parts
Water8 parts

(or)

3. Ammonium hydroxide. .1 part
Alcohol4 parts
Water5 parts

Blue Prints on Metal

To make good blue prints on metal, do not counter-etch to start with, but sensitize the metal with equal parts of (A) and (B) as follows:

- (A) Water64 oz.
Citrate of Iron and Ammonia (Green Crystals) .16 oz.

- (B) Water64 oz.
Potassium Ferricyanide. 8 oz.

Mix equal parts of (A) and (B) just before using, expose from 5 to 10 minutes, develop and fix in a saturated solution of potassium alum. If intensification is desired, flush with a saturated solution of ammonium bichromate. Use a nitric acid and alum counter-etch before putting down hand work. This formula has been published many times, but usually the use of 1% solution of hydrochloric acid is recommended as the developing agent.

Sepia Prints on Paper

Sensitize the paper with

- (A) 1 oz. distilled water
110 grains ferric ammonia citrate (Green)
- (B) 1 oz. distilled water
18 grains tartaric acid
- (C) 1 oz. distilled water
45 grains silver nitrate

Mix (A) and (B). If paper to be coated is glazed, a binder can be added of 1 oz. water and 30 grains gelatin to make the solution adhere to the surface. Add (C) slowly in the dark. Brush on evenly and dry rapidly. Develop under running water and fix with "Hypo," 1½ oz. in 64 oz. water.

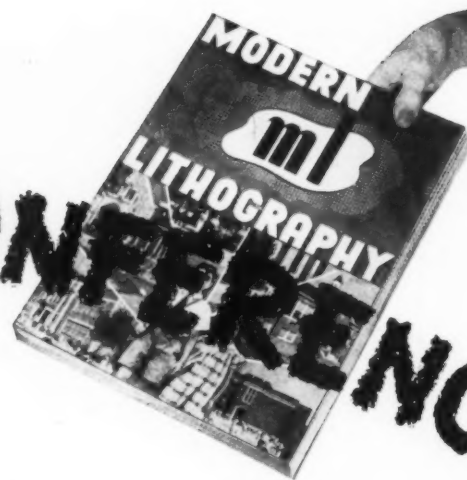
Blue Print Coating for Paper

- Potassium Ferricyanide. .60 grains
Ferric Ammonia Citrate
(Green)110 grains

- Water32 oz.

Wash off the sensitizing solution under flowing water, avoiding soak-

LNA WAR CONFERENCE



**ISSUE
MAY 1943**

THE Lithographers National Association has announced a litho War Conference for May 10, 11 and 12 in Chicago. This will afford the nationwide industry an opportunity to stop a moment to get its bearings, to exchange wartime problems and methods, and to make plans for the future. Top men from litho plants coast to coast will be there, seeking information from other lithographers, from government representatives, and from the supply trade.

The LNA War Conference Issue of MODERN LITHOGRAPHY, to be published in May, will be distributed at this conference, and will contain material especially planned to tie in with this important wartime event. This issue will offer manufacturers of supplies and equipment an excellent medium for carrying their messages directly to these leading men of the industry at a time when they are seeking all available information. Special low advertising rates will be in effect. Plan now to be represented. Ask us for complete details.

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1. To preserve the value of your good name.
2. To maintain customer loyalties even though buying may be reduced.
3. To tell the lithographic industry what you are doing during the war.
4. To maintain your identity among new and changing markets.
5. To contribute real information that will help the lithographer face wartime problems.
6. To help lithographers with advice on maintenance and conservation of equipment and materials.
7. To help the lithographic industry educate and train its personnel, a real problem in view of labor shortages.
8. To offer service even though orders cannot be taken, thus preserving good will.
9. To explain shortages and substitutions.
10. To develop an understanding and demand for the lesser-known items in your line that can contribute to lithography's needs.
11. To help lithographers get the best out of what they CAN get.
12. To pass along technical information made necessary by substitutions and the necessity to get along with present equipment.
13. To explain changes in price policy.
14. To deny false rumors of scarcity and rising prices.
15. To show the lithographer how he can develop new business, based on changed market conditions.
16. To help lithographers get greater production from present equipment.
17. To discourage lowering of quality standards beyond necessary restrictions of war.
18. To help the government sell bonds and stamps.
19. To cooperate in campaigns for avoiding waste and collecting salvage.
20. To report new developments and research projects in progress.
21. To help lithographers get started on sound planning for the future.



MODERN LITHOGRAPHY

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MODERN LITHOGRAPHY

ing the paper any more than is strictly necessary to remove the coating. Dry under a fan. If the washing makes the paper too porous for the drawing material or India ink, the surface may be glazed by brushing it over with a thin coating of albumen or gelatin after the paper is thoroughly dry. One ounce of egg albumen dissolved in 32 ounces of water, or one ounce of gelatine in the same quantity of water will do. The secret of success in making good blue lines for tracing is in applying a thin coating of the sensitizing solution. It is best put on with a wide brush and should be dried quickly and in darkness.

Blue Lines on Paper

There are many requests for a good formula for making blue prints on paper by those now engaged in map reproduction. The formula below is simple and produces an excellent blue line image for drafting on paper. Where maintenance of exact size is important, the paper should be mounted first on a firm support such as Masonite to prevent shrinkage. When a light support is used and the paper applied with a paste adhesive, it is necessary to mount both sides of the support to equalize the tension and prevent curling. If rubber cement is available, the paper can be mounted by applying a thin layer of cement to both the support and the paper, allowing both pieces to dry and then putting them together. It is necessary to mount only one side if this "dry mounting" technique is used.

Thoughts on Illumination

The following rules for efficient lighting are given by Cady and Dates in *Illuminating Engineering*. Minimize glare, hang lights high up out of the field of vision, get plenty of steady and well, but not perfectly, diffused light (5 to 25 foot candles), avoid flickering light, sharp shadows, and any very light or very dark regions in the room. Walls should reflect 30 to 50 per cent of the incident light; preferred colors, light warm gray, light buff, dark cream, light olive green; ceilings should re-

flect more than 65 per cent; preferred colors, white and light cream. Upper part of walls may be made lighter than lower, ceiling color may be extended down the walls somewhat. *Desk tops should reflect not more than 25 per cent.*

The color of the illumination of the workshop has effect on the efficiency with which work may be conducted. "For discrimination of fine detail spectrum yellow light is best," to quote M. Luckiesh, in "*Color and Its Applications*." In "Further Studies on the Effect of Composition of Light on Ocular Functions," by Ferree and Rand, the authors state "Yellow light is less fatiguing and more comfortable for reading than blue or green light."

Luckiesh and Moss, in "The Effect on Visual Acuity of Shortening the Spectrum at the Blue End," *Journal of Optical Society of America*, state that "Acuity is slightly increased by using a yellow filter over an incandescent lamp in spite of the decreased brightness. This accounts for some of the advantages of yellow glasses for the eyes."

Most eye fatigue experienced in working under fluorescent lights is due to glare and poor location of the illuminant.

Very often the worker is not aware of eye fatigue while he subconsciously struggles along with it. It is often the direct cause of an irritable nature and of many apparently careless mistakes. Men working on the camera and making frequent trips from the glare of arc lights to the dark room and back again, experience eye fatigue and may suffer permanent injury to their eyes from the lag in adapting to the sudden violent changes. As much protection as possible should be obtained by wearing goggles to restrain glare while working with arc lights, and the operator should avoid staring into the arcs.

Opaquers and lay-out artists working over light tables should acquire the habit of covering the table top as much as possible. The eyes are trying to adjust to many different light sources at once and the light table

puts a great strain on them, especially when there is glare around the edges of the layout sheet.★★

May Train Women

Further questionnaires regarding labor shortages and the need in the lithographic trade for trained women to replace men, have been sent out by the Lithographic Technical Foundation in cooperation with the action launched recently by Walter E. Soderstrom, executive secretary of the New York Photo-Lithographers Association.

Dr. D. J. MacDonald, educational director of the foundation stated that if the need is shown for a training course to be established for training women in New York for litho work, his organization is prepared to set up and operate such courses. Dr. MacDonald has made a number of personal interviews with trade management men and reports a growing interest in the training of women. To determine the extent of this interest, he has sent out questionnaires to a number of plants, to follow up a similar form sent by Mr. Soderstrom recently.

Morris Joins Rudge

Charles V. Morris, former sales manager of the J. E. Linde Paper Company, has joined the sales and promotion department of William E. Rudge's Sons, New York, according to an announcement by Frederick G. Rudge, president of the company. Mr. Morris is widely known in the trade as one of the charter members of the Graphic Arts Victory Committee. In his new post, his time will be devoted to both the interests of William E. Rudge's Sons and to the firm of Zeese-Wilkinson & Co. with which Rudge is affiliated in certain fields of sales development.

GPI Men Speak

Herbert Kaufman and W. F. Talbot of General Printing Ink Corp. were speakers at the first of a series of educational meetings held by the advertising agency Production Men's Club of New York, March 4.

Picked for the Job!



**BUY MORE
WAR BONDS**

THE TANK CORPS Roll through the Axis

To man one of these mechanized mastodons calls for the physique of a wrestler, the cold-chiseled courage of a leopard tamer. A fellow who can handle a steam shovel with the precision of a watchmaker might do. But besides having brawn and skill these men-in-asbestos must be immune to merciless treatment.

To find this means selection: fine-tooth combing, grueling tests both physical and mental.

Printers and converters select SPRINGHILL TAG . . . the famous 100% sulphate surface-sized paper because it can everlastingly take it printed, typed, or written—for index cards, tags, charts, schedule cards, etc.

INTERNATIONAL PAPER COMPANY



220 EAST 42nd STREET, NEW YORK, N. Y.

PAPERS FOR PRINTING AND CONVERTING

MODERN LITHOGRAPHY

IN AND ABOUT THE TRADE

LNA Plans 'War Conference' in Chicago May 10-12

A "WAR CONFERENCE" will be held in Chicago May 10, 11, and 12 by the Lithographers National Association, it has just been announced, and a program adhering closely to the industry's war problems is being planned. Scene of the conference will be the Edgewater Beach hotel.

Open sessions on many wartime subjects are planned for the first two days, Monday and Tuesday, which will be open to all lithographers who wish to participate. The meetings will be concluded by Wednesday noon, the 12th, the third day being devoted to association problems with members in attendance.

The program is, of course, not yet announced. However, in telling of the general plans, LNA officials stated that there will be discussions on the work the industry is doing for the Army Map Service, possibly with representatives of the Service from Washington.

Representatives from other government agencies are expected to be there to discuss various problems with lithographers. The Office of War Information has a number of projects which are of interest to the trade, and these are to be covered. The attitude of the War Manpower Commission toward the essential character of the lithographic industry is expected to be clarified in discussions with representatives of this agency. The Office of Price Administration will have representatives there to discuss ration banking, the various rationing programs, and the printing price ceiling, among other things. Members of the War Production Board are to be on hand with vital information on the paper outlook and on other supply problems of the trade.

"We are not planning any entertainment such as golf as it seems to us to be quite out of the picture this year," an LNA spokesman said. "Lithographers who are sincerely interested in the progress of their business and want to get the benefit of a meeting of this sort, will come. We have no intention of promoting this as a get-together for non-interested individuals who just want some entertainment. We want this to be a business meeting attended by people who are interested and who are willing to devote their time to getting from government representatives, and others who attend, the information that will be most helpful and valuable in promoting the war effort," he further stated.

Litho Man Heads Boston Drive

Robert A. Whidden, president of Rand Avery-Gordon Taylor, prominent Boston lithographers, was chairman of the graphic arts division of the 1943 Greater Boston United War Fund drive which closed February 10. Ralph J. Waite, Miehle Printing Press and Manufacturing Co., was vice-chairman; and members in-

cluded Hal. R. MacNamee, Aley & Richards Co., Howard Wallingford, Tileston & Hollingsworth Co.; and Stanley G. French, Houghton Mifflin Co.

N. Y., Eastern, Meet March 18

"Essentiality and the Lithographic Industry" is the subject to be discussed by a representative of the War Manpower Commission at a joint meeting Thursday, March 18, of the Eastern Lithographers Association and the New York Association of Photo-Lithographers. The meeting is to include dinner, and is scheduled for 6:30 p.m. at the Building Trades Club, 2 Park Avenue, New York. It is expected that members and guests will have a chance to straighten out problems concerning the industry's supply of manpower by asking questions of the speaker.

WPB Surveys Industry

Questionnaires were sent recently to a number of key plants in the lithographic industry by the Printing and Publishing Branch of the War Production Board, to determine approximately the amount of various materials used by the trade. The board is trying to get a clear picture of the consumption and inventory in order to more intelligently protect the industry's supply, it was said.

Lithography Featured in Advertising War Show

LITHOGRAPHED posters, car cards and direct mail pieces are featured in the exhibit "Advertising Goes to War" which opened February 26 at the New York Museum of Science and Industry in Rockefeller Center. The comprehensive show, which includes foreign posters as well as those of the United States, contains over 100 different lithographed posters and car cards all pertaining to some phase of the United Nation's war effort. The show is sponsored by

the American Advertising Guild, and features advertising since Pearl Harbor. Stanley Moss is chairman of the exhibition committee.

The exhibit also contains examples of magazine and newspaper advertisements. "No other force in America can rival advertising's genius for persuasive reasoning in print, for dramatic presentation of ideas," a statement by the sponsors pointed out.

The exhibit will continue until March 21.

Snyder & Black, Gugler, Produce Red Cross Posters



Above—The 24-sheet poster produced by Gugler Lithographic Co., Milwaukee.
Below—The small 8-color poster lithographed by Snyder & Black, New York.

THE most complete poster coverage ever obtained by the American Red Cross has been achieved this month through 21,000 24-sheet posters (shown above), and distribution of nearly two million smaller posters. The 24-sheet job was produced by the Gugler Lithographic Co., Milwaukee. Over a million 12 x 14½ reproductions of this same design, which was drawn by Lawrence Wilbur, as well as 533,000 copies of a 7½ x 10½ eight-color poster, titled "This Year I'm Giving Double," were produced by Snyder & Black, New York lithographers. The 24-sheet posters are being displayed on 17,000 billboards, contributed by the outdoor advertising industry, with 4,000 appearing on independent local billboard space, and in large department store displays in many cities. In pre-



vious years the use of billboards by the Red Cross has not exceeded 5,200. The campaign runs through the entire month of March, which has been designated as Red Cross Month.

Philadelphia Club Has Quiz, Lady Lithogs Attend

QUIZ NIGHT, with a board of "experts" to parry questions from the floor, made up the program of the February 22 meeting of the Philadelphia Litho Club, but a generous portion of the evening's spotlight was on three "Lady Lithographers," who were present, and who were reported to be the first members of the growing female lithographic contingent to cross the club's threshold. They were Misses Mary Waschler, Angela Mason, and Margaret

Poole, trouble-shooter, opaquer and camera operator, respectively, of Dando-Schaff Printing & Publishing Co., Philadelphia lithographers. Accompanied by Merle Schaff, president, and William H. Jensen, Dando-Schaff superintendent, as well as two male members of the D-S staff, they were introduced to the 75 Litho Club members present by Secretary Fred W. C. French. Club members later admitted that the ladies lent some sparkle to the meeting. (Pictures of

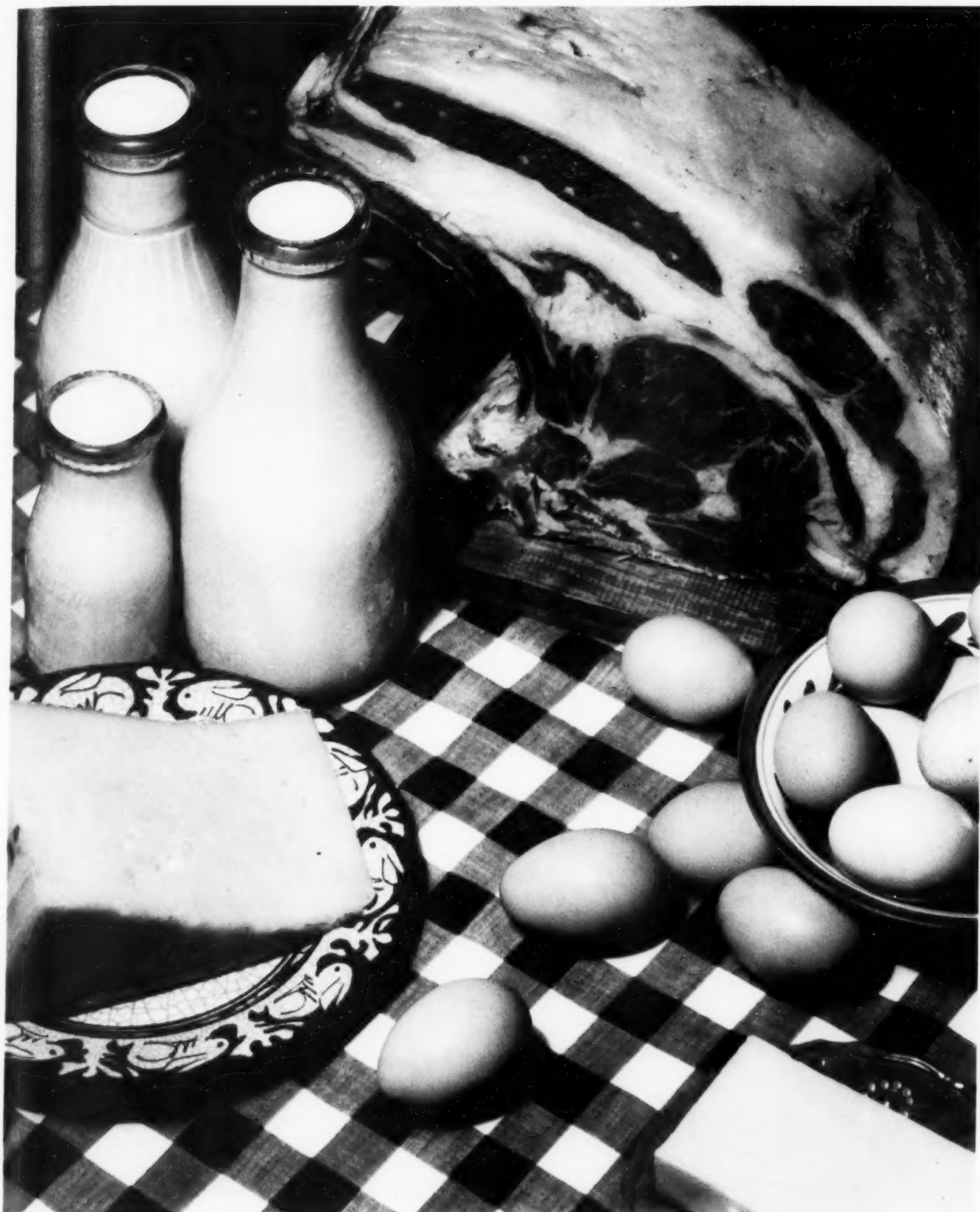
these "Lady Lithographers" were published in the November issue of *Modern Lithography*, as part of a comprehensive account of the part women are playing in the lithographic industry.)

It was the second quiz type of meeting held by the club, and seven men, representing various phases of the industry sat on the dais and answered questions on lithographic operations from the floor. The "experts" were: Herbert Bradt, Zabel Brothers, presswork; James Deeney, Bensing Bros. and Deeney, ink; Kenneth Whitecar, Alpha Litho Co., camera; Robert Pollock, Godfrey Roller Co., rollers; William Rutherford, Eastman Kodak Co., film; Joseph Winterburg, Phillips & Jacobs Co., chemicals; and Joseph Mazzaferri, Graphic Arts Engraving Co., platemaking. Club president, Walter A. Kaiser, of Edward Stern & Co., presided.

The next meeting of the club will be March 22 when a program is planned to give attention to post-war planning. Two motion pictures are scheduled. "Three Dimensional Seeing," produced by E. I. DuPont de Nemours & Co., deals with painting the printing plant, and the other, "Curves of Color," was produced by General Electric Co. and portrays the graphic measurement of color. Representatives of the two companies are to be on hand to answer questions.

Produce War Calendars

Kehoe & Lau, Chicago's firm of lady lithographers, distributed last month the first of what is planned as a series of twelve large wall calendars, designed as a contribution to the war effort that is distinctly a product of the lithographer's craft. Patriotic pictures, plus brief messages emphasizing the long-range importance of holding bonds as well as buying them, will be stressed on each calendar. In a letter accompanying the first calendar "the girls" also say "Our 1942 volume increased over previous years and a greater percentage of it is for customers who are partly or entirely in war work."



Lithographed in 4 colors

WARREN'S Cumberland Offset

►PRE-CONDITIONED◀

WOVE & SPECIAL FINISHES

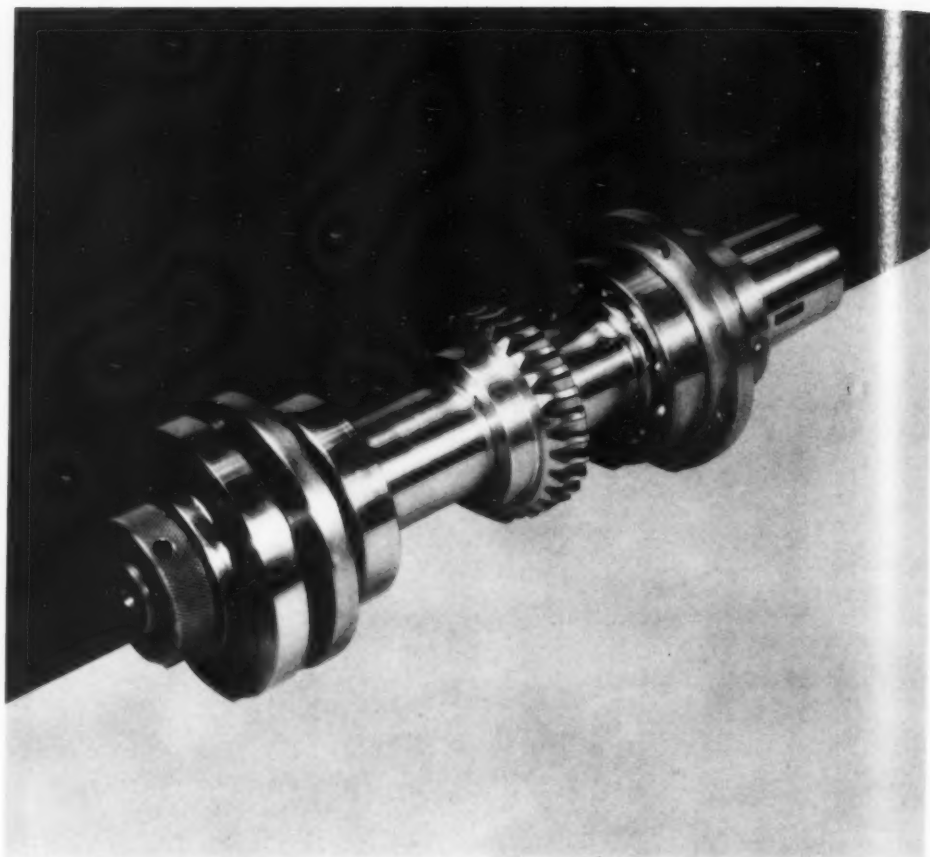
Postal regulations prohibit sampling of paper in this publication, therefore Cumberland Offset is not used for this insert.
Sample Book of all finishes of Warren's Cumberland Offset may be secured from your Warren merchant.

Leading
PAPER MERCHANTS
who sell and endorse
Warren's Standard Printing Papers

ALBANY, N. Y.	Hudson Valley Paper Company
ATLANTA, GA.	Sloan Paper Company
BALTIMORE, MD.	The Barton, Duer & Koch Paper Co.
BATON ROUGE, LA.	Louisiana Paper Company, Ltd.
BIRMINGHAM, ALA.	Strickland Paper Company
BOISE, IDAHO	Zellerbach Paper Company
BOSTON, MASS.	Storrs & Bement Company
BUFFALO, N. Y.	The Alling & Cory Company
CHARLOTTE, N. C.	Caskie Paper Company, Inc.
CHICAGO, ILL.	Chicago Paper Company
CINCINNATI, OHIO	The Diem & Wing Paper Company
CLEVELAND, OHIO	The Petrequin Paper Company
COLUMBUS, OHIO	The Alling & Cory Company
DALLAS, TEXAS	The Diem & Wing Paper Company
DENVER, COLO.	Olmsted-Kirk Company
DES MOINES, IOWA	Carter, Rice & Carpenter Paper Co.
DETROIT, MICH.	Western Newspaper Union
EUGENE, ORE.	Seaman-Patrick Paper Company
FORT WORTH, TEXAS	Zellerbach Paper Company
FRESNO, CAL.	Olmsted-Kirk Company
GRAND RAPIDS, MICH.	Zellerbach Paper Company
GREAT FALLS, MONT.	Quimby-Kain Paper Company
HARTFORD, CONN.	The John Leslie Paper Company
HOUSTON, TEXAS	Henry Lindenmeyr & Sons
INDIANAPOLIS, IND.	L. S. Bosworth Company
JACKSONVILLE, FLA.	Crescent Paper Company
KANSAS CITY, MO.	Virginia Paper Company, Inc.
LANSING, MICH.	Midwestern Paper Company
LITTLE ROCK, ARK.	The Weissinger Paper Company
LONG BEACH, CAL.	Western Newspaper Union
LOS ANGELES, CAL.	Arkansas Paper Company
LOUISVILLE, KY.	Zellerbach Paper Company
LYNCHBURG, VA.	Zellerbach Paper Company
MILWAUKEE, WIS.	Miller Paper Company, Inc.
MINNEAPOLIS, MINN.	Caskie Paper Company, Inc.
NEWARK, N. J.	Nackie Paper Company
NEW HAVEN, CONN.	The John Leslie Paper Company
NEW ORLEANS, LA.	Henry Lindenmeyr & Sons
NEW YORK CITY	Lathrop Paper Company, Inc.
	Storrs & Bement Company
	Alco Paper Company, Inc.
	Henry Lindenmeyr & Sons
	Lathrop Paper Company, Inc.
	The Alling & Cory Company
	J. E. Linde Paper Company
	The Canfield Paper Company
	Marquardt & Company, Inc.
	Schlusser Paper Corporation
OAKLAND, CAL.	Zellerbach Paper Company
OKLAHOMA CITY, OKLA.	Western Newspaper Union
OMAHA, NEB.	Field-Hamilton-Smith Paper Company
PHILADELPHIA, PA.	D. L. Ward Company
	The J. L. N. Smythe Company
	Schuykill Paper Company
PHOENIX, ARIZ.	Zellerbach Paper Company
PITTSBURGH, PA.	The Alling & Cory Company
PORTLAND, ME.	C. M. Rice Paper Company
PORTLAND, ORE.	Zellerbach Paper Company
RENO, NEV.	Zellerbach Paper Company
RICHMOND, VA.	B. W. Wilson Paper Company
ROCHESTER, N. Y.	The Alling & Cory Company
SACRAMENTO, CAL.	Zellerbach Paper Company
ST. LOUIS, MO.	Beacon Paper Company
	Tobey Fine Papers, Inc.
ST. PAUL, MINN.	The John Leslie Paper Company
SALT LAKE CITY, UTAH	Zellerbach Paper Company
SAN DIEGO, CAL.	Zellerbach Paper Company
SAN FRANCISCO, CAL.	Zellerbach Paper Company
SAN JOSE, CAL.	Zellerbach Paper Company
SEATTLE, WASH.	Zellerbach Paper Company
SHREVEPORT, LA.	Louisiana Paper Company, Ltd.
SPOKANE, WASH.	Zellerbach Paper Company
SPRINGFIELD, MASS.	The Paper House of New England
STOCKTON, CAL.	Zellerbach Paper Company
TOPEKA, KAN.	Midwestern Paper Company
TROY, N. Y.	Troy Paper Corporation
TULSA, OKLA.	Tulsa Paper Company
WACO, TEXAS	Olmsted-Kirk Company
WALLA WALLA, WASH.	Zellerbach Paper Company
WASHINGTON, D. C.	Stanford Paper Company
YAKIMA, WASH.	Zellerbach Paper Company

EXPORT AND FOREIGN

NEW YORK CITY (Export) National Paper & Type Co.
Agencies or Branches in 40 cities in Latin America and West Indies.
AUSTRALIA B. J. Ball, Ltd.
NEW ZEALAND B. J. BALL (N. Z.), Ltd.
HAWAIIAN ISLANDS Honolulu Paper Co., Ltd.,
Agents for Zellerbach Paper Company



Courtesy Van Norman Machine Tool Co., Sutherland-Abbott Advertising Agency

WARREN'S Cumberland Offset

► PRE-CONDITIONED ◀

WOVE • SAXONY • HOMESPUN • LINEN • HANDMADE

WARREN'S Cumberland Offset is *pre-conditioned* by the exclusive process that has been used successfully on Warren's Label papers. Under average pressroom conditions, both winter and summer, Cumberland Offset may be run directly from the case or skid without further conditioning by hanging.

Comprehensive pressroom tests indicate that Cumberland Offset exhibits a minimum of stretch or shrinkage under changing atmospheric conditions. Tendencies toward curling and "cockling" are held to a minimum—even under extreme conditions of relative humidity.

Because of its flat-lying properties Cumberland Offset is a "production" sheet which may be run at maximum press speeds.

Write for free booklet—"How Will It Print by Offset"

S. D. WARREN COMPANY • 89 BROAD STREET, BOSTON

Better Paper  Better Printing
Printing Papers

548 Entries in "Books by Offset", Show of 90 Best Opens March 30

THE lithographic and publishing industries responded heartily to the invitation to submit books for the "Books by Offset" exhibit being sponsored by the American Institute of Graphic Arts and 548 different books from 116 lithographers and publishers were submitted. Entries were received from 20 states and Canada, to make it a widely representative show.

Ninety of these entries have been selected by a jury and a technical committee and these books will be officially placed on exhibit at a dinner meeting and preview showing, Monday, March 29, at the Town Hall Club, New York. The selected books will be announced at that time. The exhibition will then be shown for the public at the galleries of the American Institute of Graphic Arts, 115 E. 40th St. from March 30 to April 10, following which it will tour the nation for a year.

The 90 books selected represent the work of 55 publishers and have been divided into nine categories as follows:

Juvenile books, 25; general trade books, 10; text books, 15; technical books, 5; reprints, 8; bookvertising, 12; work books, 2; school annuals, 3; and war books, 10.

Trade observers stated that this exhibit, the largest undertaking of its kind in the offset book field, will be a valuable contribution to the lithographing industry, by bringing to the attention of publishers in principal cities the outstanding work done by lithographers during the last two years. It has been pointed out that now, when metal for printing plates is on the critical material list, books printed by offset lithography may be reprinted simply by making new plates from negatives on file while the original plates may be regreined and used, while in letterpress book

printing it is necessary to keep the entire metal plates on file thus tying up quantities of critical materials.

In addition to the regular committee headed by George R. Carter, a technical committee also assisted in selecting the books. This group was composed of Summerfield Eney, Champion Paper & Fibre Co., T. M. Flavell, Lithographers National Association, and Richard V. Holahan, assistant production manager of Fortune Magazine.

At the preview dinner, March 29, the invited guests will include lithographers and publishers who submitted books for the exhibit, members of the sponsoring Trade Book and Text Book Clinics of the institute, and members of the institute.

Further information on the itinerary of the exhibit's tour will be available later from the institute.

Litho Men Head Association

The lithographic industry continues to be strongly represented in the councils of the Graphic Arts Association of Illinois, following the re-election of three officers to posts they have held for two years. The trio includes Carl E. Dunnigan of Inland Press, chosen 1st vice president; Walter H. Nelson, of Rand McNally & Co., 2nd vice president; and W. H. King, Stationery Mfg. Co., treasurer. For president the Association re-elected John J. Maher of the John Maher Printing Co., a letterpress firm. Representatives of offset operators among the Board of Directors include T. E. Donnelley of R. R. Donnelley & Sons Co., and Otto E. Bull of Workman Mfg. Co. Homer J. Buckley of Buckley, Dement & Co., was chairman of the nominating committee.

S. F. Beatty, executive secretary, in his annual report, discussed at length

the organization's many activities related to war work. Included were such matters as the drive to secure business for Chicago and downstate members from the Government Printing Office, Army ordnance department, OPA, OCD, and OWI; the survey of possibilities for war conversion by printers; the campaign to stimulate printing sales; waste paper collections, and other projects.

Of interest to Illinois lithographers and printers generally was the announcement that a suit involving the state sales tax on paper had ended favorably for the Association in a decision handed down Nov. 12 by the Illinois Supreme Court. This reversed a lower court decision upholding a tax on paper sales to printers. Checks due for the illegal collections which the court ordered refunded, can be expected about April 15, it was announced. Twenty-eight paper merchants participated in the case with the Graphic Arts Association.

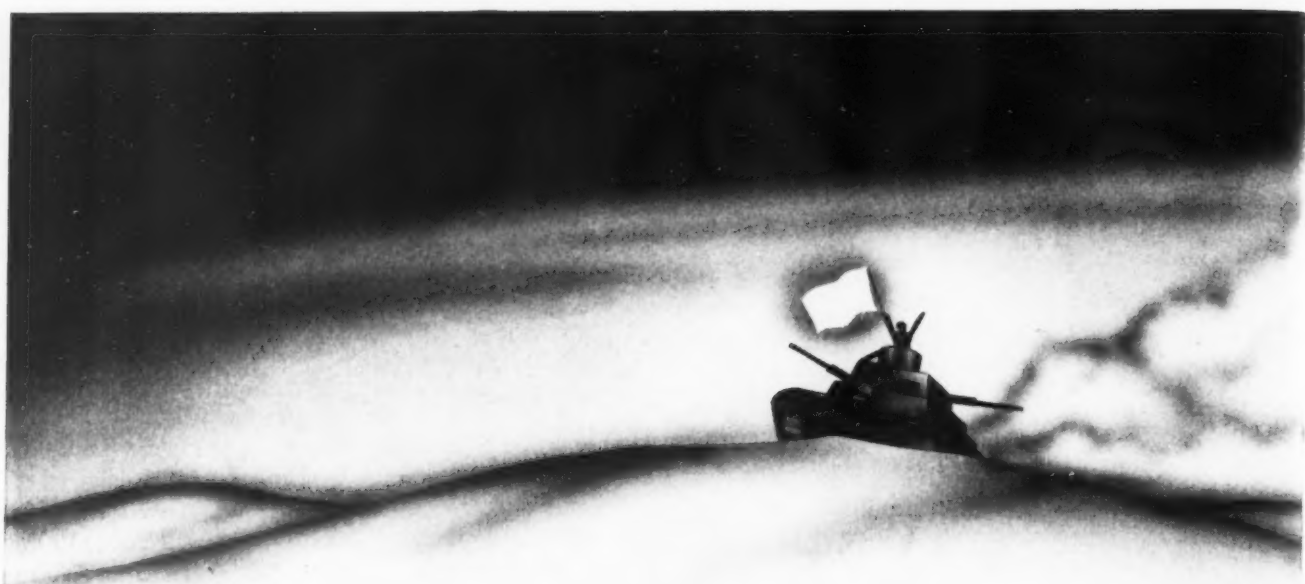
Rheel Produces Random Book

"Fun With Science," a book for young people just published by Random House, was produced by offset lithography by the Rheel Litho Co., New York. The book is 8 x 10 and contains 60 pages about half of which are composed of halftone illustrations. The board covers and also the book jacket were offset on coated one side stock in two colors. Stephen Usischon is in charge of production at Rheel.

The Rheel Company moved into new quarters February 15, at 305 East 45th St. It was formerly located at 380 Second Avenue.

Two Warrior Sons Return

Mrs. Elsa Riddell, office manager in the Chicago headquarters of the Lithographers National Association, enjoyed a brief visit during February with her two sons who were back home from the war front. The two boys, Robert, a Marine, and William Thomas, a sailor, have been serving together on the U.S.S. Pensacola and had many tales to relate of their experiences when their ship made history in the South Pacific battle zone.



WHAT WILL STOP THE WAR?



Millions of men, tanks, ships, planes, ammunition, supplies, and propaganda will combine to decide the issue.

With all of these printing will play a vital part. That is the reason why there should be no waste in the production of printing—for it is essential to the war effort.

Rollers in bad condition or out of season waste ink, paper, man-hours, and machine time. They should not be tolerated.

Bingham Rollers are of known quality, accepted as standard by pressmen throughout the country. They are the logical selection of alert executives who demand maximum output.

Check your rollers now. If there is a question of their condition, replace with new Bingham Rollers at once. There is a Bingham representative near you.

SAM'L BINGHAM'S SON MFG. CO.

Roller Makers Since 1847

Manufacturers of Printers' and Litho-Offset Rollers

CHICAGO

Atlanta
Cleveland
Dallas

Des Moines
Detroit
Houston

Indianapolis
Kalamazoo
Kansas City

Minneapolis
Nashville
Oklahoma City

Pittsburgh
St. Louis
Springfield, O.

Roller Makers Meet

Thomas W. Ford of Harrigan Roller Co., Baltimore, was reelected president of the National Association of Printers' Roller Manufacturers at the organization's 26th annual meeting at Hotel Commodore, New York, February 8 and 9. Harry Bigelow, Wild & Stevens, Boston, was elected vice president; William P. Squibb, president of Godfrey Roller Co., Philadelphia, was named secretary, and Mrs. Charles S. Hadley, O. J. Maigne Co., New York, was elected treasurer.

Frank H. Stevens, Jr., of Wild & Stevens, retiring vice president of the association, was named chairman of the executive committee. H. Howard Colehower, Jr., Godfrey Roller, and Carl G. Bingham, Samuel Bingham's Son Mfg. Co., Chicago, retiring secretary and director, respectively, became members of the executive committee. Robert R. Wortman, Wortman Roller Co., Cincinnati, retiring treasurer, became a member of the board of directors. Other directors elected were Millard F. Bingham, Jr., Chicago Roller Co.; Frank Reppenhagen, Jr., of F. A. Reppenhagen, Buffalo; James F. Brinning, National Roller Co., New York; and Edna L. Travers, Bingham Bros. Co., New York.

Most of the business at the meeting pertained to the member firms' cooperation in the war effort.

Former Ink Man Sinks Sub

Charles E. Southern, former manager of the Nashville branch of Sinclair & Valentine Co. and since last June a Lieutenant (J.G.) in the U. S. Naval Reserve, stood on the deck of a torpedoed merchant ship and commanded the gun that sank a Japanese submarine, it has just been reported.

First news of the action came to A. J. Math, president of S & V, in a letter from Southern, and an account was recently published in *American Ink Maker*, affiliated with *Modern Lithography*.

Official announcement was made February 23 by the Navy Department. It told of the ship proceeding with a heavy load of cargo for American fighting forces in the South Pacific when it was torpedoed without warn-

ing early one night. The explosion lifted the ship out of the water, and flames and smoke filled the air. Persons on board began abandoning ship. But Southern, who was in command



Lt. (J.G.) Charles Southern, U.S.N.R.

of the ship's gun crew stayed at his post while the sub surfaced and sent a shell at the ship. Southern was at the aft gun and another of his men at the forward gun, and although they had only four shells, the rest having been lost in the explosion, they hit the sub with two of them, then pumped 400 rounds of machine gun bullets into the raider. The sub sank, but the merchant vessel stayed afloat and was towed into port, the report stated.

Southern is a former member of the staff of *American Ink Maker*.

Edgar G. Newell Dies

Edgar G. Newell, treasurer of the Oberly & Newell Lithograph Corp., New York, died February 4 at his home in Caldwell, N. J. He was 71, and was a son of the company's founder, Herbert C. Newell, Sr. H. C. Newell, present head of the company is now the only surviving son of the founder.

Conn. Club Meets April 2

Friday, April 2, is the date for the next meeting of the Connecticut Valley Litho Club. The meeting will be held at the City Club, Hartford. No announcement has been made concerning the program.

Chicagoans Discuss Kodachrome

Problems involved in the lithographic reproduction of kodachrome pictures were discussed at the Feb. 25 meeting of the Chicago Lithographers Club, the speaker being D. C. Donaldson of Eastman Kodak Co. Physical structure of the kodachrome was outlined to explain its peculiar requirements of light and temperature to render color and true balance, while other points for successful manipulation of the plate to produce correct reproduction were touched on. Also considered were methods designed to properly compress the tone scale of the transparency to a range that is possible of reproduction with the use of existing inks. The large turnout which greeted Mr. Donaldson and the shower of questions he was called on to answer indicated the interest lithographers have in the subject. Preceding his talk, dinner was served in the Atlantic Hotel's banquet hall.

Sleight Sells Interest

An interest in the Sleight Metallic Ink Co., of Pennsylvania and Illinois, has been sold to National Fireworks, Inc., of West Hanover, Mass., according to an announcement made by R. Edward Sleight, Louis W. Hraback and Courtland Palmer, of the ink firm. The sale involves no change in the personnel of the ink operations. Mr. Sleight remains as president of the Pennsylvania and has been named chairman of the board of the Illinois firm. Mr. Hraback was elected president of the latter company.

Jensen Discusses Offset

William H. Jensen, superintendent of the offset department of Dando-Schaff Printing & Publishing Co., Philadelphia, described the fundamentals of offset lithography to the Philadelphia Craftsmen's Club, February 23. It was "Offset Night" in a series of "Share Your Knowledge" meetings in which letterpress, offset and intaglio printing are being presented by representatives of each field. "Intaglio Night" is scheduled for March 29.

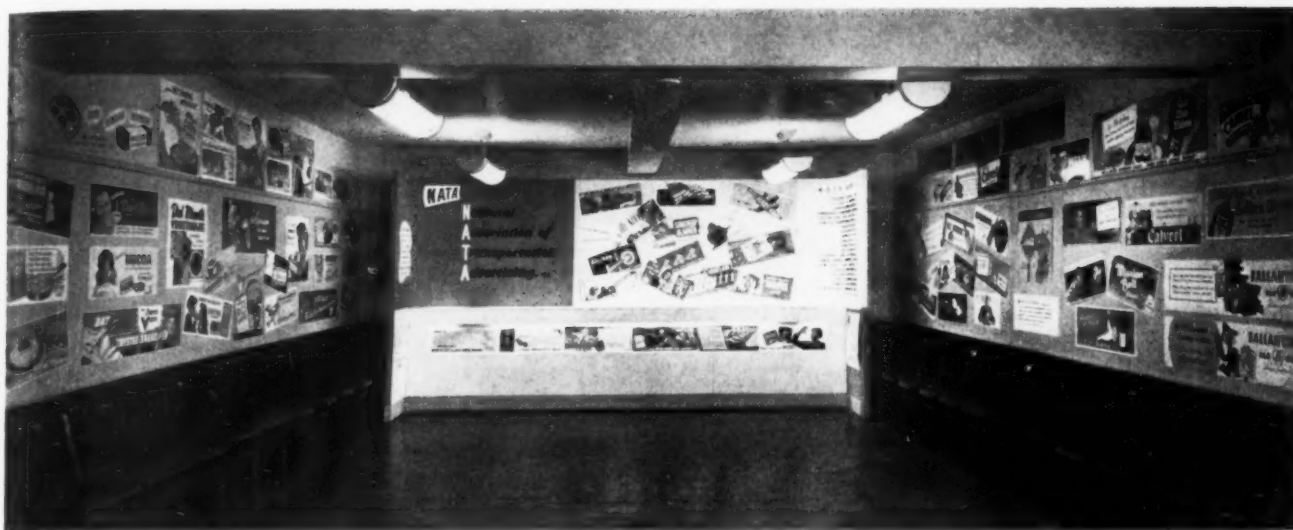


The **RUTHERFORD** name plate
has visited many parts of the world
on products of peace. Today, however, and
tomorrow, the name plate is being left
off the equipment now manufactured by
RUTHERFORD, but you may be sure that the products
are doing a job worthy of the name **RUTHERFORD**.

RUTHERFORD MACHINERY COMPANY
DIVISION • GENERAL PRINTING INK CORPORATION

100 SIXTH AVENUE • NEW YORK, N. Y.

Display of Nation's Transportation Advertising Shows Lithography



AN EXHIBIT of a cross section of the nation's transportation advertising, much of it produced by offset lithography, shown at the New York Advertising Club during February and March, reflected the increasing interest being shown in this medium by national advertisers. The display, part of which is shown in the accompanying photograph, was sponsored by the National Association of Transportation Advertising, and showed current work being done in this phase of advertising in cities coast to coast. The show opened February 23 with a private showing which was attended by representatives

of the advertising trade and the press, and was scheduled to close March 6.

One panel of the show was devoted to cards promoting various war projects such as war bonds, and Army, Navy, Marine, WAAC and WAVE recruiting. Another panel called attention to the editorial program of the New York Subways Advertising Co. which two years ago inaugurated the first such program on a comprehensive scale. In this editorial feature are included monthly beauty contests featuring "Miss Subways," pointers on interior decoration, comic and historic features,

and others, and 60 different cards go into production on these features each month.

A spokesman of the sponsoring association, which represents 22 transportation advertising companies in the United States, stated that there are approximately 75,000 street cars, buses, elevated and subway and commuting cars in this country which carry car cards, in addition to the many station posters which are used.

A large amount of this material is lithographed. Space in the exhibit hall did not allow the showing of more than 150 cards, and no station posters could be shown.

Ft. Belvoir Wants Ideas

The Engineer School, Ft. Belvoir, Va., which among other activities operates a complete lithographing plant. (*MODERN LITHOGRAPHY*, October, 1942), is now promoting a suggestion system in a search for ideas for more efficient methods. "Our Enemies Have Brains but the American Soldier Can Top Them All if Useful Ideas Reach the Right People in Time," says the first poster of the current drive.

Suggestions on any of the many activities of the Corps of Engineers may be sent in by either civilian or soldier, and will be judged on their merit without any identification of the sender. Activities of the Engi-

neers which touch on the graphic arts field include design, drafting, maps, photography, printing, and publications. Suggestions should be addressed to the Engineer School, Fort Belvoir, Virginia.

A Correction

In the news story of the Army-Navy "E" award to the Army Map Service in the February issue of *Modern Lithography*, we regret that the Strobridge Lithographing Co. was mentioned as being located in Cleveland. This well-known firm's headquarters are in Norwood (Cincinnati), Ohio.

Hammer Has \$500,000 Fire

A five alarm fire of undetermined origin caused damage estimated at \$500,000 at the plant of the Hammer Dry Plate & Film Co., St. Louis, February 4 destroying large inventories of the company's dry plates, film and negative paper used in the lithographic trade. However, R. W. Salzgeber, secretary, stated that rebuilding is under way and production of most of these products will be resumed during March.

In the meantime orders are being filled from inventories in the branch offices at New York, Chicago, and Beverly Hills, it was said. A large percentage of the Hammer Company's production was for war industries.



TAKE A LOOK

at the first advertisement
of the NEW,
YEAR-ROUND CAMPAIGN
FOR RISING PAPERS...

*starting this March
in the important magazines
that reach the
important executives,
including*

TIME

BUSINESS WEEK

UNITED STATES NEWS

When you want to know GO TO AN EXPERT

WHEN YOU WANT to know what make of paper to buy for your office letterheads, our advice is simply:

"Ask your printer—he knows paper."

He knows Rising's reputation for craftsmanship. He should—for years we've been supplying expert printers with fine papers for every printing purpose. He can tell you better than we that Rising quality will add much to the prestige of your business message—and little, if anything, to its expense.



Three grades: Rising Bond (25% rag), Rising Line Marque (25% rag), Finance Bond (50% rag), Rising Parchment (100% rag). Prices on a par with other quality papers. The Rising Paper Company, Housatonic, Mass.

ASK YOUR PRINTER—HE KNOWS PAPER

Chicago Craftsmen Have "Battle" on Offset

OFFSET Night at the Feb. 17 meeting of the Chicago Club of Printing House Craftsmen developed into another of those free-for-all but good natured "battles royal" on the relative merits of offset vs. letterpress for which the Club's annual offset night has long been famous.

Norman Mack of Maklin Litho-plate Graining Co., chairman of the educational committee and master of ceremonies for the evening, had made no advance announcement of speakers but called on four men for impromptu service on the panel of experts about whom the discussion raged. The quartet included: Arthur W. Brooks, of American Colortype Co., and president of the Chicago Craftsmen's Club, who represented the letterpress cohorts in the debate; Chas. Listing, of American Bank Note Co., representing a strictly lithographic shop; Amos W. Bishop, of the University of Chicago Press, a combination shop; Jack L. Hagen, of Workman Mfg. Co., a combination shop, and vice president of the Chicago Lithographers Club. Explaining the objective of the discussions, Mr. Mack stated that his thought was to show that the ideal print shop should have both offset and letterpress equipment.

To illustrate why one or the other process would be preferable on a particular job, from both the artistic and the profit standpoint, large press sheets from actual jobs were displayed, these ranging from labels to magazine covers. Discussion centered about such points as convenience, speed in make-ready, operating costs, quality, etc. Effort was also directed to dispelling such erroneous ideas as that enamel stock cannot be used for offset work or that the process is handicapped for clarity or tone.

A bank of sixteen 7 x 10 inch half-tones used on a duotone job was shown and various individuals were called on to estimate roughly the costs. For the photo-engravings the figure was put at around \$200, while that for offset plates was fixed at from \$80 to \$100.

Almost everyone got in on the floor discussions but among outstanding contributors to the open debate were Sigard E. Berg of Rightmire-Berg Co.; Chas. Carlson of Rand McNally & Co.; Harry Mann of the Manz Corp.; Herman Freeze of the Regensteiner Corp.; and Herman Schultz of the H. J. Schultz Lithograph Co.

Supplementing the array of work used for demonstration on the platform, the Club's Exhibits Committee, of which George Skach of the H. J. Schultz Lithograph Co. is chairman, had arranged a second exhibit on the corridor of the Furniture Club, where the meeting was held. Contributions for this were made by the Schultz Co., Regensteiner Corp., I. S. Berlin Printing & Lithographing Co., and the Columbian Lithographing Co.

Although 90 per cent of the Club's membership represent letterpress shops, 232 persons braved a winter gale and near-zero temperatures to attend the offset meeting. This, it was stated, was a larger crowd than at

any of the Club's meetings in many months.

Philip M. Heinz, secretary and plant superintendent of Offset Fine Arts, Inc., of Chicago, and Edwin C. Friesendorf, secretary and ink technician of the A. E. Handschy Printing Ink Co., were among new members inducted into the Club.

To Reproduce "Four Freedoms"

The series of four paintings by Rockwell Kent, depicting the four freedoms, which recently were featured in the *Saturday Evening Post*, are to be reproduced as posters for national distribution, it has been announced by the *Post*. The production of the posters is being handled through the Office of War Information and the Government Printing Office.

Arvey Man Dies

Thor C. Krumlinde, general superintendent of the Arvey Corp., Chicago lithographic finishers and display manufacturers, died Feb. 16 in his suburban home at Barrington, Ill. Mr. Krumlinde, who was 58 years old, came to Chicago from Stockholm, Sweden, when he was 11.

How to Service an Obsolete Offset Press



Photo shows Harris officials wrecking an old press.

FIFTY tons of scrap metal were contributed to the national scrap drive by the Harris-Seybold-Potter Co. when these obsolete Harris presses were broken up recently. Harry A. Porter, vice-president of the firm, is shown here wielding the sledge while (l. to r.) J. L. Bluemer, district ser-

vice manager of the Chicago office; Wm. Guy Martin, vice-president and Chicago sales manager, and J. G. Sheldon, of the industrial salvage branch of the War Production Board, stand by. The presses had been held in storage in Chicago by the Harris Co.



Another Blessed Event

The F. M. Charlton Co. has been adding to its equipment family again! Old Man Stork was just about able to deliver his latest bundle.

It's another combination gatherer, side-stitcher, and gluer—this time a 6-box affair that can take a maximum 9x12 and a minimum 4½x6 book.

"Jumbo Junior," as we have dubbed him, isn't as big as his pater, "Jumbo Senior," but his appetite is almost as gargantuan. In one continuous operation "Senior" automatically assembles as many as 14 signatures of a book or magazine up to 11x16 and completes the job.

Both "Senior" and "Junior" produce a large hourly volume, ready for trimming and shipping. Hinging of covers can also be done speedily on both machines. They symbolize Charlton's policy of constantly improving production at reasonable cost to its customers, and thereby increasing the processing of large volume jobs. They join Charlton's other extensive family of machinery, all geared for straight-line production, in 50,000 square feet of daylight space. Charlton service gives you the advantages of the most modern equipment for pamphlet and publication binding.

F. M. CHARLTON CO., Inc., Bookbinders



"Minute Men



in Performance"



345 HUDSON ST., NEW YORK, N.Y.

WALKER 5-3871

SERVICE PLUS QUALITY!

HAS MADE OUR PLANT THE WORLD'S LARGEST

**WE SPECIALIZE IN
SMALL PLATES**

ALSO REGRAINING MULTILITH

**ZINC and
ALUMINUM PLATES
UNGRAINED-GRAINED-REGRAINED**



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**Lithographic Plate Graining Company
of America Inc.**

EXCLUSIVE MANUFACTURERS OF PREPARED PLATES

37-43 Box Street-Brooklyn, N.Y.

Baltimore Club Meets March 15

The Litho Club of Baltimore met February 15 and heard L. F. Livingston, manager of the Agricultural Extension Division of E. I. duPont de Nemours & Co., studied a large display of chemical synthetic products, and made plans for the next meeting planned for March 15. Nearly 30 members and guests were present to hear Mr. Livingston's talk, "The Value of Scientific Research" in which he showed the important part being played in the war by scientific research and by products created directly from agricultural products. "In peacetime, chemicals are the life blood of industry," he said, and pointed out their increased importance in wartime.

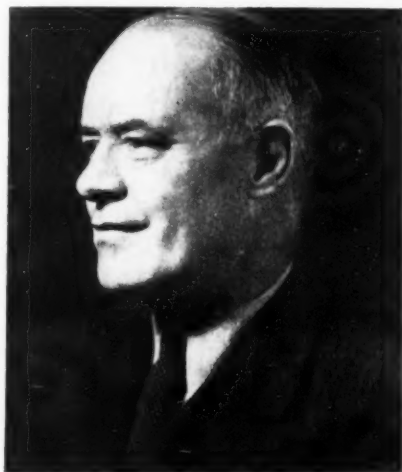
A resolution was presented which will enable the club to increase its associate membership, and this measure is expected to be ratified at the March meeting. Eight or ten new associate members are expected to be taken into the organization at that time, according to T. King Smith, Gamse Lithographing Co., secretary of the club. Meetings are held at the Emerson Hotel, Calvert and Baltimore Streets. The speaker for the next meeting has not yet been chosen. Mr. Smith stated.

Dickinson, Printers Ink, Dies

Col. Clinton Roy Dickinson, former president of Printers Ink Publishing Co., well-known speaker at various lithographic meetings, and more recently on active duty with the U. S. Army, died February 23 at Emergency Hospital, Washington. D. C. Death came as a result of a cerebral hemorrhage which occurred while he was in conference with Major Gen. Lewis B. Hershey, Director of Selective Service, to whom Col. Dickinson was executive assistant. He was 55.

Col. Dickinson had a wide acquaintance in the graphic arts through his work as associate editor of Printers Ink weekly and monthly since 1919, and president of that publishing firm from 1933 until January, 1942, when he resigned on entering active service in the army.

During the First World War he served in the office of the Chief of Staff, Intelligence Division. Col. Dickinson will be remembered in the litho-



Col. C. R. Dickinson

graphic trade as a featured speaker at the Lithographers National Association annual convention at Rye, N. Y., in June, 1939.

Nelson Replaces Magill

Stockholders of Magill-Weinsheimer Co., Chicago, at a meeting Feb. 9, elected R. B. Nelson to fill the post of secretary-treasurer, made vacant by the recent death of Franklin Magill. A. J. Weinsheimer continues as president, while E. J. Lipsch and R. E. Dickinson were named assistant secretary and assistant treasurer, respectively. Nine vice presidents were elected as follows: C. E. Pfister, George Spiel, D. F. Spiel, H. K. Daniels, M. H. Rasmussen, C. F. Bockmyer, A. J. Borre, C. W. Skugh and D. B. Pierce. Directors of the company, in addition to Messrs. Weinsheimer, Nelson, Pfister, Rasmussen and George Spiel include General Manager Alfred E. Baasch, R. D. Morgan, H. S. Gratch and Frank W. Heiskell.

Magill-Weinsheimer Company is now engaged in execution of extensive printing contracts for government agencies, it was announced, and having been given full status as a war plant is required to observe all war industry regulations, including armed guards, night floodlighting of the premises, fingerprinting, etc.

McShane, Bingham Co., Dies

Leo D. McShane, former vice president of Sam'l Bingham's Son Mfg. Co., died in Indianapolis, Ind., Feb. 4, following an operation. He was 58 years old. Except for a brief period when he operated a motion picture house at Junction City, Kans., Mr. McShane's entire business career had been devoted to the printer's roller manufacturing business, most of it with the Bingham Company. From his first job as truck driver, he progressed through the manufacturing department to a salesman's position and then, in February, 1932, he was elected vice president in charge of sales and production at the Bingham Company's Chicago plant. Ill health forced him in 1941 to be relieved of some of his duties and he was accordingly transferred to Indianapolis where he remained as manager.

Stevens of Miehle Dies

Burt D. Stevens, first vice president and chief engineer of the Miehle Printing Press & Mfg. Co., Chicago, died at Alexian Brothers Hospital, there, Feb. 4. Mr. Stevens was 69 years old and had been with the Miehle Company for over thirty-five years. Recognized as an international authority on printing presses, he acquired a wide acquaintance both in this country and abroad, through his frequent appearances at printers' gatherings.

Walter P. Ten Eyck Dies

Walter P. Ten Eyck, 62, retired president of Snyder & Black, New York lithographers, and later associated with the lithographing firm of Seiter & Kappes, died at his home in Westfield, N. J., February 10, following a long illness.

M. J. Capelle, Chicago, Dies

Max J. Capelle, vice president of M. & L. Typesetting Co., Chicago trade composition shop, died Feb. 22 from injuries incurred when he fell, Jan. 9, on an ice-covered pavement. He was 68 years old and had been active in the printing field for half a century.

RELIABLE LITHOGRAPHIC PLATE CO., Inc.

The Pioneer Plate Grainers of America

ALL PLATES
INCLUDING THOSE
REGRAINED FOR
MULTILITH
**ARE MARBLE
GRAINED**

"RELIABLE" is far more than just part of our name. It means to our customers that our plates can be depended on to give first-class results because from start to finish the graining is handled by experts of long experience. Our plates are made right to work right—they are reliable! We carry a full supply of Zinc and Aluminum Sheets for Offset, Rotaprint Presses, in fact for all the lithograph trade.

**MILL
SELECTED
METAL
USED
EXCLUSIVELY**
(MADE IN U.S.A.)

A trial order should "sell" you our services and products.

RELIABLE LITHOGRAPHIC PLATE CO., Inc.

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3-4531

Do you have your copy of THE LITHOGRAPHER'S MANUAL?

This book is crammed full of valuable information regarding offset presses, litho inks, platemaking, cameras, lamps, paper, type, color, chemicals, research developments, sales training and promotion, trade associations, as well as miscellaneous production, sales, equipment and maintenance data. You can't afford to be without this book.

MODERN LITHOGRAPHY

254 W. 31st ST. NEW YORK, N. Y.

Send me copies of THE LITHOGRAPHER'S MANUAL. Enclosed is check (or money order) to cover copies at \$5.00 each. Foreign and Canada \$6.00.

Name

Company

Address

City..... Country.....

Price \$5.00 Postpaid

Please send check or money order to

MODERN LITHOGRAPHY

254 WEST 31st STREET, NEW YORK, N. Y.

GAVC Completes Guide for Wartime Printing

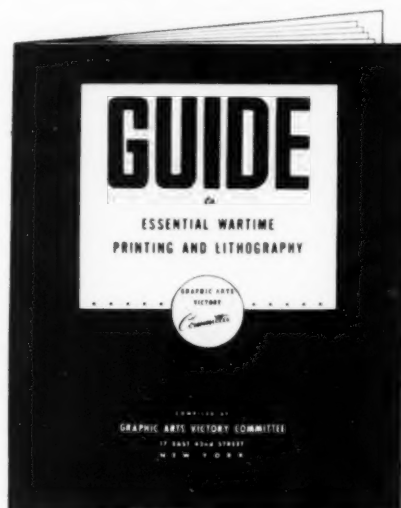
GUIDE to Essential Wartime Printing & Lithography," the handy manual prepared by the Graphic Arts Victory Committee for the graphic arts industry, has just been completed and is being released to the trade on March 15. The guide book is 8½ by 11 and contains 64 pages. It was produced by offset lithography by Rogers-Kellogg-Stillson, New York. The first run was 25,000 copies, but reruns are expected since a number of government agencies have indicated their desire for copies for distribution to their regional offices. Almost three months were required to contact various government departments, to collect information, check copy, get approval on page proofs and obtain final clearance from all government agencies involved. It is the first guide book of its kind and Washington opinion was that it would "make advertising and printing history." It provides producers of printing with concise information of the many wartime advertising projects and shows special ways to incorporate them into many types of jobs for customers.

During February the GAVC completed its first major project, the 16-page two color offset booklet "How to Conduct Your Convention by Mail." It was produced by Ardlee Service, New York. A large part of the art and preparation of this booklet was handled by Frank Sohl and Norman Githens, of Githens-Sohl, New York printing firm, who headed the talent committee on the project. The book contains practical suggestions and information on replacing conventions with direct mail. Complete case histories are given, and specific methods are presented. This was prepared in cooperation with the Office of Defense Transportation's campaign to reduce travel.

Next project of the GAVC is to be the preparation of a folder for the rent preparation division of the Office of Price Administration. Present plans

call for a four page, 8½ by 11 folder, containing complete information on this project for printers and lithographers to offer to customers for tying in with advertising.

Another project which is being



planned is an eight page brochure explaining the V Homes campaign soon to be launched by the Office of Civilian Defense. This campaign is to break in national magazines near the end of March, and this brochure, prepared by the GAVC will contain information for use by printers and lithographers in helping customers to use V Home material in individual advertising projects.

Complete information on these projects may be obtained from the Graphic Arts Victory Committee, National City Bank Building, Madison Avenue at 42nd Street, New York.

Outlaw "Outlaw" Posters

Posters in 6-sheet and 24-sheet sizes, promoting the new movie "The Outlaw," showed the star of the show, Jane Russell, in a manner objected to by various groups and the posters were outlawed by the district attorney and chief of police of San Francisco. Foster & Kleiser, coast outdoor advertising firm through which the posters were handled, then arranged for a rush job on new posters in black and

white, and these were put through over a week-end and were ready to post within a few days. No objection was made to the film itself.

Eastern Retains Counsel

Daniel Arvan has been retained as counsel by the Eastern Lithographers Association, according to an announcement by Walter E. Soderstrom, executive secretary. Mr. Arvan's initial assignment was that of advising the labor committee on the negotiation of the master contract between the association and the Amalgamated Lithographers of America, Local No. 1, which was recently executed.

Litho Man Heads Containers

Roswell C. Mower, former vice-president of the Manz Corp., Chicago lithographers, was appointed director of the container division of the War Production Board, February 26, after serving as deputy director for some time. He succeeds Charles L. Sheldon who resigned to return to an executive position at Hood Rubber Co. E. F. Tomiska, former president of Brack Container Corp., became deputy director of the division.

Col. Nelson Leads Action

Col. Leroy Nelson, whose civilian position as vice-president of the Illinois Zinc Co., Chicago, brought him wide acquaintance among lithographers, figured prominently in dispatches from the Guadalcanal battle front last month. In recent dispatches, correspondents described an attack led by Col. Nelson on an 1800-foot mountain five miles from Henderson Field, from which the Japs were driven out despite heavy opposition. Recently, Gov. Dwight H. Green of Illinois cabled Col. Nelson, congratulating him and his Chicago troops for their exploits. Col. Nelson has been on active duty since leading his regiment to Camp Forrest, Tenn., just two years ago. At the Lake Shore Club, his Chicago residence, a message recently received, indicated that he would be home shortly on leave.

Is your printing Essential to the War Effort?

This question will govern your 1943 printing sales volume. But the question "Is paper *Quality* essential to *Printing*" can be answered in the affirmative—NOW! Operating under paper restrictions you will realize each sheet of paper is a unit of sale or waste. Each wasted sheet will be charged against your allotment, whether you complete your order to the customer or not. Obviously, your 1943 policy should demand the use of the best stock to keep waste to an absolute minimum. No better papers for this purpose than

PACEMAKER*offset* **BROCKWAY***cover*

GEORGE A. WHITING PAPER COMPANY • Fine Offset Papers • MENASHA, WISCONSIN

A Dependable Source of Supply

SINCLAIR & CARROLL CO., Inc.
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LOS ANGELES
417 E. Pico St.
Tel. Prospect 7296

SAN FRANCISCO
345 Battery St.
Tel. Garfield 5834

NEW ORLEANS
211 Decatur St.
Tel. Magnolia 1968

McCandlish Announces 1943 Poster Competition

PLANs for the McCandlish Awards for 1943 have been announced by A. R. McCandlish, of the McCandlish Lithograph Corp., Philadelphia, and this year's poster contest will have a complete war theme. No commercial products will be featured as poster art subjects, but all entries must be on the subjects of U. S. war bonds and stamps or the Red Cross.

Interest in this year's competition is running high, a company spokesman said, and a large number of inquiries have already been received at the firm's offices. Indications are that it will continue to be "the most important poster contest held annually in the United States," according to a company statement.

Contestants may develop any angle

of the selling of war bonds and stamps, and the American Red Cross has asked that art work submitted on its theme feature the services rendered by that organization to the armed forces. First prize in the contest will be \$500, second \$300, third \$150, and fourth prize is \$50, all in war bonds. All entries must be in the McCandlish office, Roberts Avenue and Stokley Street, Philadelphia, by 5 p.m. on May 1.

Full details of the contest are available from the McCandlish company.

Other recent activities of the McCandlish firm included an exhibition of commercial lithography at the New York Advertising Club, during February.

gram was decided upon at the February 10 meeting at the same place, because of the deep inroads being cut into the membership by the draft. The February meeting was the first of the new type, planned as informal discussions without a formal speaker. The group had dinner around one large table and engaged in a general discussion of wartime problems in the industry, dealing mainly with manpower and the draft.

St. Louis Group Adopts Slogan

"Printing Saves Manpower" was the slogan adopted by the board of directors of the Associated Printers and Lithographers of St. Louis at their meeting early in February. The essentiality of printing and lithography was studied by the group, and plans were made for the meeting held February 17 at the DeSoto Hotel at which E. F. Conner, president of the St. Louis Chapter of the National Association of Cost Accountants, and a panel of other speakers led a tax quiz.

The association's new publication, currently appearing under the title, "What's My Name," is offering a \$25 war bond for the best name submitted by members. Entries closed February 15 and the winner will be announced soon.

Jack Wolff, of the lithographic division of the Printing and Publishing Branch of the WPB in Washington, is vice president of the St. Louis association.

Plate Order Still Goes

The third deadline of the "Obsolete Plate Order," WPB Conservation Order M-99, is April 1, which marks the beginning of the third quarter to which the order applies. Copper and zinc plates "for which no future use is assured" are obsolete under the order and are to be scrapped or regained. Failure to comply prevents such person from acquiring any printing plates containing restricted metals during the calendar quarter.

Metal Firm Observes 50th Year

Brooklyn Metal Decorating Co., Brooklyn, N. Y., is observing its 50th year in metal lithography, during 1943. Founded in 1893 as the Brooklyn Dial Co., in Jersey City, N. J., the company began by making clock faces. Many of these original clock dials are still to be seen in IRT subway stations in Brooklyn and New York.

Later moving to Brooklyn, the firm went into general commercial metal lithography, and until the present war restricted their manufacture, was producing toys, signs and novelties. Production now is centered mostly on metal containers. S. J. Litinski is president of the company, and C. M. Van Syckle is secretary-treasurer.

Offer Stripping Class

A class in lithographic stripping is being organized in New York by the Lithographic Technical Foundation and the New York Trade School, Dr. D. J. MacDonald of the foundation announced. Persons interested in this course may obtain information from the foundation at 220 E. 42nd Street, New York.

Nab Unidentified Lithogs

A Federal Bureau of Investigation roundup of enemy aliens in Chicago Feb. 10 netted five men, one of whom was described as "a 22-year old lithographer's assistant," who had come to America with his father in 1928. The father, who was also arrested, was quoted by "G" men as saying he would never be an American citizen and would never let his son fight against Germany. No names were given.

Young Lithogs Meet March 10

The Young Lithographers Association of New York, in making plans for its annual meeting being held March 10 at the Building Trades Club, announced several departures from the past year's program. William Winship, Brett Lithographing Co., president of the association, stated that the present officers would be continued through another year and that instead of planning for regular monthly meetings, the organization would meet on call probably four times a year.

Curtailment of the group's pro-

LNA Announces School Contest

The attention of "the largest gathering of school editors in the world" will be focused on lithographed school publications when they meet in New York, March 11-13 for the 19th Annual Convention of the Columbia Scholastic Press Association. In connection with this meeting, the Lithographers National Association has announced its Fourth Annual Lithographed Publications Competition.

One copy of each lithographed publication entered in the regular

contest will be submitted to a committee appointed by LNA and awards will be made to those publications scoring highest. Elementary, junior high, and high school publications will be represented in the competition.

The awards each year are based on the following points: Galley Preparation; Galleys per Page; Justification of Columns; Original Art Work; Halftone Illustrations; Advertisements, etc.; General Arrangement; Reduction of Type; Margins; Lines—proper use and weight; Paste-up and

Corrections; Gutters; and a Bonus for taking full advantage of the versatility of the lithographic process.

Hotel Features Offset Menus

Another set of four offset menus in a continuing series has just been delivered to Hotel New Yorker by Rogers-Kellogg-Stillson Co., New York lithographers. The present set consists of four different cover designs, showing food preparation by American soldiers in four major wars including the present one. The print orders on this set was 220,000—55,000 of each of the four designs.

The menus, 9 x 11 $\frac{1}{4}$, are lithographed in two color process on the outside, with one color line art work on the inside. Art work is by John Fulton, magazine illustrator.

Hotel New Yorker utilizes a new set of menus twice each year, and averages 7,840 copies per week, many of which go to hotel patrons as souvenirs, according to R. Kynett Penfield, advertising manager.

Passantinos in Army

Joseph Passantino, vice-president and superintendent of Passantino Printing Co., New York, was commissioned a 2nd Lieutenant during February and is now serving in the Army Signal Corps at a New Jersey station. Robert Passantino, who was formerly assistant to his brother Joseph, is now with the Army in Australia. Charles Passantino, head of the firm, reports that a total of 13 from the firm besides his two brothers are now in the armed services.

Merck Co. Gets "E"

Merck & Co., Rahway, N. J., suppliers of chemicals to the lithographic trade, received the Army-Navy "E" award for war production February 9. Presentation was made at a ceremony held in front of the company's administration building with company officials, employees and military officers participating.

Show Wartime Packages

A wartime packaging conference and exposition is planned for April 13-16, at Hotel Astor, New York, by the American Management Assn.



ON TOP! *on time, and right*

The marvels of today's shipbuilding records are a result of efficient planning and work control . . . the routing of materials and the controlling of operations by written instructions on paper.

Whether your business is ships or shoes, bombers or banking, *Parsons Papers* (made from strong cotton fibers) can provide the right paper controls—more efficiently, more economically.

Many of America's outstanding war plants have selected *Parsons Specialized Business Papers* to do the big job of controlling materials, men and methods. Your Paper Merchant will be glad to supply samples and give you complete details on how you can benefit and profit by recommending—

Parsons Paper *Specialized for Modern Business*

BOND PAPERS

For correspondence, documents and forms of every description

LEDGER PAPERS

For accounting systems, records, certificates and other permanent needs

INDEX BRISTOLS

For machine accounting, index record cards and general uses

TECHNICAL PAPERS

Made to your specifications for all types of special requirements

PARSONS PAPER COMPANY • HOLYOKE, MASS.

NEW EQUIPMENT AND BULLETINS

Strathmore Marks 50th Year

In observance of the 50th anniversary of the company and also the 80th birthday of its president and founder, H. A. Moses, the Strathmore Paper Co. has just distributed a brochure and a special edition of its internal house publication, *The Strathmorean*. The anniversary edition of the house organ is a board-bound book containing photographs and an account of the beginning of the company in 1892. The first mill at Woronoco, Mass., is shown, and the development of the firm is traced through succeeding stages. At present Strathmore operates four mills with six papermaking machines, and produces over 500,000 pounds of paper a week. The company states that after production of the book was begun, the printer was forced to convert practically his entire capacity to essential war printing for the government, and the original schedule for issuing the book was postponed from last fall.

Publish Photo Booklet

Photographic Exposure Computer, a pocket size booklet published by the American Standards Association is being distributed to the photographic and allied trades through the Graphic Process & Products Corp., New York. Spiral bound, the booklet is 3½ x 5 and contains tables for photographic exposures in any part of the world, computed according to the variations of sunlight. Exposure data is also given for floodlight and flashbulb lighting. Additional information is available from the Graphic Corp.

Issue "Inspirations"

Westvaco Inspirations for Printers, No. 139, just distributed by the West Virginia Pulp and Paper Co. contains reproductions of art work which has appeared in recent national advertising accompanied by discussions

of the functions of the advertising and printing methods used. Also reproduced are a number of illustrations from the famous book, "Alice in Wonderland," from which the theme of the entire copy is taken. Inside of the 16-page brochure is letterpress, covers are offset in four colors, featuring a reproduction of the painting, "A Virginia Wedding," which is also used on the company's 1943 calendar. Offset reproductions of this painting are also being used as inserts in the firm's current advertising program.

"Impressions" Covers Chemicals

A discussion of the priority position of lithographic chemicals is contained in a recent edition of *Harris Impressions*, published by the Harris-Seybold-Potter Co., Cleveland. It explains how suppliers of litho chemicals must observe priority ratings on orders, and discusses the complex problem of ratings for plants doing a percentage of war work. Also contained in the four page offset folder is more information on the care of the press feeder mechanism. This monthly publication is available to lithographers from the company at 4510 East 71st St., Cleveland.

Reprint Pressman's Manual

A second edition of the Pressman's Pocket Manual, by J. N. Harrison, has recently been published. The 3½" x 5¼" book contains over 200 pages of reference information for pressmen, apprentices, printing teachers and students. A large part of the book is devoted to letterpress operation, although offset presses are also covered. The author is an instructor in presswork at the Central Trade School, Oakland, Calif. The book sells for \$1.50 through the author at 2562 Maxwell Ave., that city. The first edition was published in 1938.

Miehle Announces Film

A sound slide film "Printing for Victory" has just been released for use by graphic arts groups, by the Miehle Printing Press & Manufacturing Co., Chicago. In black and white and running approximately 15 minutes, the film is planned for educational and inspirational use and ties up with the Wartime Printing Library, announced last month by the Miehle company. First showing of the film was scheduled for March 9 at the New York Advertising Club in a regional meeting sponsored by the New York Employing Printers Association and the New York Association of Printing Salesmen. A second showing was also scheduled for later in the month at a meeting of the Advertising War Activities Committee.

The film is devoted to a description of America's wartime problems and the help advertising and printing can offer towards their solution. A direct appeal to the trade is carried from H. Andrew Dudley, chief of the Campaigns Division of the Office of War Information in which he offers three suggestions for wartime printing. First, to learn what the government's basic wartime objectives are; second, to persuade every possible user of printing and lithography to coordinate his advertising with these objectives; and third, to do all possible to see that every piece of printed matter carries a patriotic message.

"Printing for Victory" is available along with complete sets of the 12-volume printing library for regional meetings of graphic arts groups. Duplicate copies have been made and any groups interested in showing these may write to the Miehle company in Chicago, or to any of the branch offices in New York, Boston, Los Angeles, Philadelphia, and San Francisco.



NO TIME FOR PRACTICE!

When Yank Rangers go into action—their days of grim and arduous practice and experimenting are behind them.

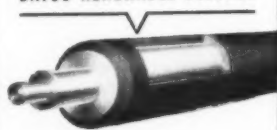
And when Dayco Rollers go into action on the presses of America—their days of "practice" and experimenting are behind them by 10 years.

There is no substitute for, and no short cut to, experience! It was 17 years ago that Dayton took out its first patent on a renewable surface printing roller. And it has been 10 years since the durability and performance of Dayco Rollers with a renewable printing surface of synthetic rubber has been proved on the presses of great publishers and lead-

ing commercial printers and lithographers.

There's no short cut to synthetic know-how! And the printing and lithographing industry needs none—because Daycos, the only rollers which can be Re-Daycoed time and time again to original efficiency at a fraction of new roller cost, have been proved for over a decade.

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CANADIAN REPRESENTATIVES, • Manton Bros., Ltd., • 111, Jeth Street, Toronto

Dayco Rollers

THE ORIGINAL AND PIONEER SYNTHETIC RUBBER PRINTING AND LITHOGRAPHIC ROLLERS

THE ALL PURPOSE ROLLER FOR  FORM, DISTRIBUTOR, DUCTOR, ETC.

THROW YOUR SCRAP INTO THE FIGHT!
BUY WAR BONDS AND SAVINGS STAMPS

ON GUARD



Now when many litho plants are running full blast turning out the millions of impressions needed for speeding the war to an end, every plant must be on guard against anything that will slow production, or lower quality. Your best assurance of good blacks, brilliant and strong, dependable and trouble-free, is to specify ECLIPSE DEEP-SET BLACK INK. This is one black ink that you can depend on for 100 per cent performance when you're operating under the pressure of large volume rush work. If you're not already using ECLIPSE DEEP-SET BLACK, place an order today and see for yourself.

DO YOUR PART!

Help conserve essential metals. Order inks in the largest container sizes you can conveniently handle. Avoid rush orders by anticipating your needs.

HIGHEST QUALITY INK FOR LITHOGRAPHERS

Gaetjens, Berger & Wirth, Inc.

35 York St., Gair Bldg., Brooklyn, N. Y.
538 S. Clark St., Chicago, Ill.

GPI Ads Promote Printing

The attention of business and advertising executives will be focused on the importance and essentiality of printing and lithography through an



experimental advertising campaign by General Printing Ink Corp., New York.

The ads will urge key business executives to consult their lithographers and printers on their problems caused by reduced sales staffs, restrictions on travel and other curbs. Unsigned teasers will also be run, asking "Have you seen your printer today?"

Litho Club Fetes Ladies

Ladies Night was held by the New York Litho Club, Saturday, February 27 at the Roosevelt Hotel, and was attended by nearly 115 members and guests. The evening was spent in dining and dancing, entertainment consisted of music and a floor show.

Charles Finck, Vulcan Proofing Co. was chairman of the entertainment committee. Assisting him were Peter A. Rice of Industrial Lithograph Co., and Frank J. Schaefer of Snyder and Black.

The regular March meeting of the club is scheduled for Wednesday, March 24 at the Building Trades Club, 2 Park Avenue.

Offset Negatives Fly Pacific

Time Magazine has just announced an offset edition of that publication for distribution to American troops stationed in Australia. Lithographic negatives of the pages of the United States edition of *Time* are made by Jersey City Printing Co., Jersey City, N. J., and these negatives are flown to Sydney, Australia, where deep-etch plates are made and the magazines printed and distributed.

Time also recently began to print

Latin American editions in Mexico City, and Bogota, Columbia, from negatives flown there from the United States. The South American editions were originally offset at Jersey City, and the complete lightweight magazines flown to the southern continent, but war demands on air cargo space have caused a change in operations.

Maxwell Leaves for Rest

W. Floyd Maxwell, executive secretary of the Lithographers National Association, is taking a rest from his duties on orders of his physician, and is spending some time in Florida. In his absence Maurice Saunders, chairman of the board of LNA is handling his work in the association's offices in New York.

1100 HEAR GPO PLANS

(Continued from Page 28)

In the question and answer period which followed, Mr. Giegengack stated that he believed a printer would be more essential in the eyes of Selective Service if he were doing work directly connected with the war effort than a printer whose work was not directly connected with it. Not too much hope was indicated for non-war printers however, as over 1,000 men have already been taken by the armed forces from the GPO. "I have not asked deferment of a single man from the draft laws," he said.

As to how to secure GPO contracts, he said the first step was to get the basic questionnaire which is available from the GPO in Washington.

PLASTIC PLATES

(Continued from Page 23)

which is the most recent of the plastic surfaces intended as image-supports when printing by offset lithography.

Invented and patented by Thomas R. Caton,³⁰ the "K-Tin" plastic plate consists of a sheet of specially processed cellulose acetate, one side of which is grained by sandblasting. As with other types of modern plastic surfaces, the plate requires no coun-

teretching: it is simply washed with running water to remove adhering graining dust, after which a photolitho print is made thereon by the regular albumen procedure of plate-making. Special solutions in the way of a sensitizer, developing ink and fountain solution have been devised for the plate, the fountain solution serving the dual purpose of a dampening mixture and a plate etch.

THIS concludes our review of plastic litho surfaces. We have refrained from mentioning claims made for any of the modern plates, being content to point out their history and such data on the nature and construction of the plates as was known to us.

All things considered, the present plates represent an important litho development, but they have been introduced in unfortunate times, when the sale or even production of the surfaces is likely to be retarded by governmental regulations aimed at the conservation of critical materials, some of which would be employed in the manufacture of the various plates.

So far as we can determine, all of the plates still are in the stage of development, with improved features likely to be incorporated as a result of extended trials under various conditions. In the face of this, we believe the plates will not come into their proper sphere until after the war; opportunity will then be presented for unhampered research, with the chance to test the materials with different types of work, and to subject them to the practical conditions and requirements experienced in general platemaking and litho printing.

Bibliography

¹ *Vollständiges Lehrbuch der Stein-druckerei*, 369 (1818); translation by J. W. Muller, *Invention of Lithography* (Fuchs & Lang), 227 (1911).

² The material was called "papyro-graphic plates," vide G. Engelmann, *Traite de Lithographie*, 155 (1840).

³ *Jahrbuch für Photographie*, 14, 9 (1900).

⁴ For details on these plates, see Henri Silbermann, *Fortschritte a.d. Gebiete d. Photo- und Chemigraphischen Reproduktionsverfahren*, Vol. II, 33-38 (1907); August Albert, *Technischer Führer durch die Reproduktions-Verfahren*, 125-129 (1908).

⁵ *Graphische Lehr- und Versuchsan-*



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GUM ARABIC
SOLUTION

Crystal clear, processed to prevent souring. Free of all foreign matter; no carbolic derivatives used to preserve this excellent product.

This prepared Gum Solution will be found *less costly* than a "home made" solution when time and waste are considered.

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The
MEN WHO MAKE
VULCAN ROLLERS
Ask You to Conserve Them

"Over here at Vulcan we're turning on the heat to produce more war materials. At the same time we feel pretty good about those extra-special rollers we were making until lately. Guess it's one of those pride of craft affairs.

"So if it isn't asking too much, will you take care of your Vulcan rollers for a while? You know, keep them clean and don't abuse them, because they may have to do for quite a stretch. After the AXIS gets the axe, we'll make you rollers that'll top even your present Vulcans for better presswork at low cost. That's a promise.



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First Ave. and Fifty-Eighth St., Brooklyn, N. Y.

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MODERN LITHOGRAPHY

stalt. (Photographische Korrespondenz, 599) (1899).

⁶ B.P. 19,007, 1902.

⁷ D.R.P. 52,868, December 13, 1889.

⁸ U.S.P. 2,225,736, December 24, 1940.

⁹ U.S.P. 88,634, April 6, 1869. (A similar product, "Parkesine," had been patented (B.P. 2359) years before (1855) by a British chemist, Alexander Parkes.)

¹⁰ D.R.P. 112,615. *Jahrbuch für Photographie*, 15, 696 (1901).

¹¹ The process was known as "Ivorit-druck," and aimed at imitation wood grain.

¹² The suggestion was made by "Cr. D." (Havre, France) in *Bulletin de l'Imprimerie* and was reviewed by Emanuel F. Wagner (*Inland Printer*, 22, 741 (1899), who did not think the surface to be a "lasting one" and considered it incapable of "yielding fine work."

¹³ *Graphische Rundschau*, 5, 59 (1903).

¹⁴ B.P. 385,274; U.S.P. 1,943,486.

¹⁵ U.S.P. 2,032,779.

¹⁶ D.R.P. 648,333.

¹⁷ D.R.P. 637,799.

¹⁸ U.S.P. 2,058,396.

¹⁹ D.R.P. 161,528.

²⁰ B.P. 413,680.

²¹ U.S.P. 2,132,443; 2,156,100.

²² U.S.P. 1,863,976.

²³ U.S.P. 2,154,219.

²⁴ U.S.P. 2,205,998; B.P. 496,421.

Modern Lithographer and Offset Printer, 35, February, 38 (1939); *ibid*, November, 148 (1940).

²⁵ *Lithographers' Journal*, 26, June, 129 (1941); *ibid*, December, 384 (1941); *ibid*, April, 43 (1942); *British and Colonial Printer and Stationer*, January 22, 1942, p. 30; *Modern Lithography*, 10, April, 34 (1942); *American Printer*, 114, April, 48 (1942); *Graphic Arts Monthly*, 14, April, 78 (1942); *Printing Equipment Engineer*, 64, April, 32 (1942); *British Printer*, 55, November, 83 (1942); *Printing*, 67, January, 84 (1943).

²⁶ U.S.P. 2,280,985.

²⁷ U.S.P. 2,230,981; 2,230,982; 2,280,986; 2,302,816; 2,302,817.

²⁸ U.S.P. 2,301,770.

²⁹ *Printing News*, 29, October 31, 1942, p. 1; *American Printer*, 115, December, 49 (1942).

³⁰ U.S.P. 2,304,541. *Modern Lithography*, 10, October, 49 (1942). ★★

PAPER RESTRICTIONS

(Continued from Page 33)

Relation of Ink to Paper. by H. J. Wolfe, Kienle Co.

In the first of these talks the point was made that expansion of offset pa-

pers is the most important property which affects the register of lithography in two or more colors. In the case of maps, which are at present so important in military operations, expansion of the paper can often cause real difficulty because of the scale errors. Methods of manufacture to provide the least expansivity consistent with the required strength, were discussed.

Mr. Wood pointed out that the present war emergency makes it possible for lithographers to contribute directly to the war effort by the adaptation of lithographic processes in the manufacture of templates, dials, gauge sticks, aeroplane loft panels, and similar items. Cameras and plate making equipment must be of the highest quality and in first class order, he said, and the deep etch process is most adaptable for this class of war work. Straight chemical methods may be used for certain types of dials.

templates and panels or the electrolytic etching process may be adapted to the more resistant base metals for these types of work. Among the many miscellaneous applications of the lithographic process in war work are found the making of metallic work sheets and instruction sheets as well as the printing of ultra violet fluorescent background field maps, and aerial navigation maps, he stated.

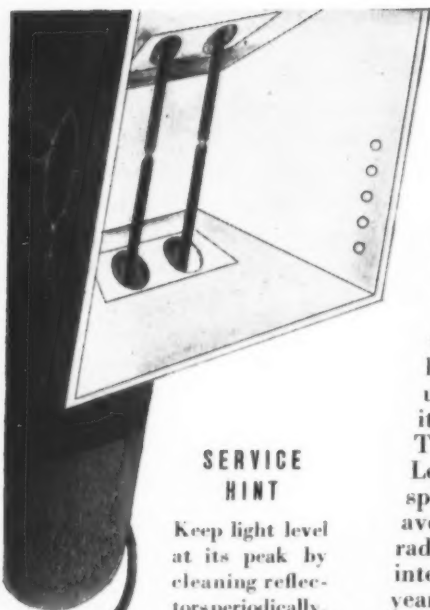
The week's activities consisted of many meetings of numerous specialized organizations within the paper and pulp industries. George H. Mead, chairman of the board of the Mead Corporation, was re-elected president of the American Paper & Pulp Association. E. W. Kiefer, president of Port Huron Sulphite & Paper Co., was elected general chairman of the Sulphite Paper Manufacturers Association.

A feature of the conventions was the exhibition, "Paper Prevents Bat-

What Do You Mean, "Paper Shortage"?



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BRANCH PLANT IN MILWAUKEE, WISCONSIN

lenecks," sponsored by the TAPPI, which showed many roles paper is playing in the prosecution of the war. Exhibitors at this show included Stetcher-Traung Lithograph Corp., San Francisco and Rochester; and Sinclair & Valentine Co., General Printing Ink Corp., and International Printing Ink Corp.★★

AVOIDING WASTE

(Continued from Page 29)

A plate that has been placed carelessly, causes considerable loss of time and the possibility of tearing the plate while adjusting it.

THE pressroom is another department where considerable spoilage is sometimes common. The men in the pressroom can contribute a great deal to the solution of every shop's problem of curtailment of paper, plates, press maintenance parts, etc. Suggestions listed here are standard practice in many plants while in others they may be overlooked because of carelessness, lack of help, or the pressure of speeded up production.

Cleanliness is a stepping-stone to efficiency and economy. When the press is covered with paper or blotter tint dust or dried ink, you can bet your bottom dollar that the press parts will be badly in need of repairs within a short time. Press parts are practically unobtainable. When making a complicated adjustment, such as timing or setting an eccentric, be sure you thoroughly understand the mechanism before adjustments are made. If there is the slightest doubt as to your ability to make needed changes, consult an expert.

Zinc plates should be treated with the greatest of care. We find it better to have the plate clamps adjusted so as to slip off the plate when excess tension is applied rather than tear the plate. It is better to store plates without straightening the ends than to bend the edges back and forth every time the plate is used. The bending will eventually break the plate edges.

Paper is giving more trouble than in pre-war days. It's not a question any more of dropping it back in the manufacturer's lap. It is a question of making the most of it and saving as much as possible. Insist on the stock clerk handling the reams without breaking the wrappers. Broken wrappers expose the paper to humidity changes, causing wavy edges and wrinkles.

Another precaution is to have the stock cut and squared shortly before you are ready to run it, instead of letting it lie around the pressroom for days, again being exposed to changes of humidity causing needless waste. If you have stock to run that is curled up or down on the corners it is much better to spend time enough to restore it to a fairly flat condition rather than to take a chance and spoil 100 sheets trying to run 1000. Another way to save paper, is to use waste sheets to get the lay or color. For that matter you can take 75 waste sheets, and insert 4 or 5 good sheets which should be sufficient to get the lay on most any black and white job. With paper already cut by 10 per cent and similar additional cuts reported due, every sheet that goes through the press will become increasingly important.

When ink is mentioned the first thing which enters the mind is, "what color ink?" Very few pressmen think of it in terms of pounds, costs or availability. If a pressman's thinking can be focused on these factors, he will notice on his press a scale or some measuring device to determine the amount of ink needed to run a color job. Another thing he will do is weigh out three or four small amounts of colors, and by mixing them together he can determine the right shade of color needed. This eliminates guess work and waste. He can then proceed to mix any number of pounds of the right shade, since he has the proper formula.

Whether it is negatives, paper, chemicals, ink or other lithographic supplies, we should have only one aim in view—economy, by minimizing spoilage and by a complete lack of guess work.★★

POSTWAR BUSINESS

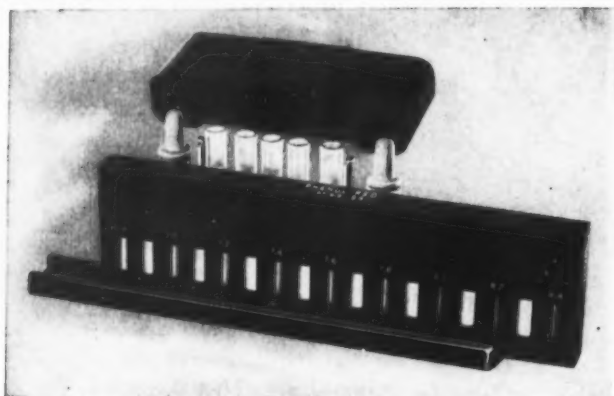
(Continued from Page 30)

ter of American thought, and that now challenges every business and institution in our land. Let us examine the factors that are involved in the post war planning program. Because distribution inevitably involves the winning of markets, merchandising that is wholesale, retail and consumer, and advertising in all its aspects, there is immediate need to translate to far-flung organizations the plans, the changes, and the developments created in the activity of the war period. Our country has crowded within the space of the national emergency and the war period, revolutionary advancements that in the normal course of business enterprise would have required decades.

OF immediate interest to business is the dissemination of plans and policies to keep them abreast of change in the post war thinking of management, of engineers, of sales and advertising executives. It is not implied that this post war planning now involves for lithography printed material covering detailed designs of new products that will be manufactured after the war. It is unthinkable, in the face of the speed of change, that any worthwhile product can be created in exactness now, to be presented to the post war market. But the thinking and the data and the information that will furnish food for thought and provide the impetus to carry along marketing outlets and consumer acceptance, are both possible and practical now.

Such activity cannot interfere in any way with the wholehearted and vigorous prosecution of the war effort which is now our first and only business as Americans. Instead of interfering with the war effort, the wide-spread dissemination through the printed word of post war plans by providing encouragement and help to hold together essential organizations against the day when peace will have come again and we shall become

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For zinc plates, fountain solutions should have a pH of 3.8, for which you use a bromphenol blue (pH 3.0 to 4.6) comparator. For aluminum, pH 4.6 is right . . . and a bromcresol green (pH 3.8 to 5.4) comparator is required. The price of either set is \$15.00. Outfit for both fountain solution and coating mixture \$24.00, f.o.b., Baltimore.



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★ ★ ★

MODERN LITHOGRAPHY

dependent upon a healthful peacetime civilian economy.

THERE is business in post war planning programs now being done by countless firms throughout the land. True, it is not only different in kind and in approach from the lithography which has existed in the past, but it is meeting today's needs. The story of scientific developments in countless industries, and their merchandising and marketing effects can be told profitably to organizations that will be affected. They need both to think and to plan with reference to these things before all confront the time when we must be fully prepared, almost over night perhaps, to return to peacetime pursuits.

Because this post war planning cannot be a re-hash of old plans; because it must be keenly alive and alert to the conditions of a new world with wider horizons than have ever existed in the past, business cannot afford to ignore the need for the printed dissemination of much of its planning as these plans affect its widely distributed branches, dealers and customers.

Because in some fields such as metallurgy, plastics, chemistry and engineering, developments as yet unannounced are revolutionary, there will be imperative need to get ready now for the period that lies ahead. Research men are united in forecasting changes that may bring a new meaning to many of the present commonplaces of life. Every industry is being affected to a greater or less degree. There have been stupendous changes in our social, in our economic, our political, and in our business life. It is not reasonable to imagine that thinking business men will want suddenly to spring, unannounced, these things upon their own widely diverse organizations who will have a part in their execution. It is not reasonable to think that public acceptance can be created over night unless the consumer has been familiarized, to some extent at least, with what lies ahead.

All of this means printing—some in small and some in large volume now. In line with the inherent nature

of selling, it is necessary for the lithographer to call to specific attention these things as they affect individual plants and businesses. The busier a man is, the more keenly alive he is to the need of keeping alert.

Plan in advance what you will say and what definite idea you will offer for lithographic printed material in line with the company's need. This type of promotion is essentially patriotic. It builds America. It is creative selling—not mere order taking.

Frequently it is the type of printing to which lithography is even better adapted than any other printing method. In post war planning there is a real market for the lithographer—an immediate market—a market that should continue to increase—a market that has many ramifications and that will require many kinds of printed material.★★

LITHO INKS

(Continued from Page 25)

Smoothness and evenness of the paper surface. 2. Absorbency of the surface. 3. Ink-receptivity or ink-wettability of the surface. 4. Hardness or resistance to picking of the stock. 5. Evenness of formation and evenness of caliper of the stock. 6. Resilience of the stock. These characteristics are governed, in turn, by the furnish used in making the pulp; the degree of beating and refining given; the formation on the paper machine; the degree and type of sizing used; the amount and kind of calendering given; the amount, kind and hardness of the coating, if any, applied to the stock; and the moisture content of the finished stock. An alteration in any one of these factors will usually affect the printing or lithographing properties of the paper. Paper that is designed for typographic or letterpress printing is not always suitable for lithographic or offset use, and vice versa. The acid dampening solution used in the water fountains of lithographic and offset printing presses tend to react with or soften the coating used on many types of coated papers designed

for letterpress use only. Such papers are very apt to cling tenaciously to the dampened rubber blankets and be torn from the grippers, necessitating time-wasting shut-downs to remove the paper from the blanket. Even if the paper is not torn, particles of the coating material may collect on the blanket and cause poor transference of the ink.

The smoothness of the surface governs, in considerable measure, the smoothness and evenness of the resulting lithographed job. While smoothness of surface is not as much a factor in offset printing as in letterpress printing, it nevertheless has a marked bearing on the results. A high order of ink-receptivity, or ink-wettability of the surface is desirable to make the ink lift properly and "stay put" after it has been applied to the surface. A fair degree of porosity and the use of more organophilic and less organophobic materials in the furnish, sizing, loading or coating will aid ink-receptivity. Materials such as rosin, casein and starch are organophilic; while alum, glycerine, and watersoluble salts are organophobic. The importance of hardness, or resistance to picking has already been emphasized. The resilience of the stock governs the amount of pressure which may be applied between the blanket and impression cylinder before the stock tends to "creep" and yield distorted impressions.

When ordering ink, the printer or lithographer should always furnish the ink maker with a sample of the stock the ink is to be used on, so that he may adjust his formula accordingly. This is advisable even though the manufacture of modern printing and lithographic inks and modern printing and lithographic papers have advanced to the stage wherein a considerable margin of safety is generally present between them. In closing, may I emphasize that an increased knowledge of the fundamentals of lithography, and closer cooperation between paper maker, ink maker and lithographer alike will simplify the problems of each and assure the continued advancement of lithography. ★ ★



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LITHOGRAPHIC ABSTRACTS

Abstracts of important current articles, patents, and books, compiled by the Research Department of the Lithographic Technical Foundation, Inc. These abstracts represent statements made by the authors of articles abstracted, and do not express the opinions of the abstractors or of the Research Department. Mimeographed lists have been prepared of (1) Periodicals Abstracted by the Department of Lithographic Research, and (2) Books of Interest to Lithographers. Either list may be obtained for six cents, or both for ten cents in coin or U. S. stamps. Address the Department of Lithographic Research, University of Cincinnati, Cincinnati, Ohio. Original articles cannot be furnished except as photographic copies at twenty cents per page, plus six cents postage for each four pages or less.

Photography and Color Correction

Notes and Comments—Eliminating Moire. W. B. Hislop. "Process Engravers' Monthly," 49, No. 587, Nov., 1942, p. 299. The author supplements a previous article on the elimination of the moire pattern. A detailed explanation is given of the "maximum pattern" method. In this method the pattern is made as large as possible and the camera is vibrated during exposure. The method of obtaining the maximum pattern is described. In cases where image size makes it impossible to use the point of maximum pattern, vibration may still be used if the pattern squares can be made larger than one-half inch. Ways of achieving uniform and regular vibration of the camera are described.

Process Practice. Frank H. Smith. "Process Engravers' Monthly," 49, No. 587, Nov., 1942, pp. 300-301 (2 pages). The author discusses and explains Cox and Hallam's method of eliminating color pattern in the four-color process. In their method the black printer is made at an angle of 135° instead of the usual 45°. The red, blue, and yellow printers are still made at the conventional angles of 15°, 75°, and 90°, respectively. In the usual method, color pattern appears because the two sets of ruled lines are never exactly at 90° to each other. Drawings are presented to show how Cox and Hallam's method prevents color pattern even with imperfect screens.

Shop Talk. I. H. Sayre. "Modern Lithography," 11, No. 1, Jan., 1943, pp. 35, 37 (2 pages). The exact procedure, together with formulas, is given for making a reversed positive. The use of overlays in color separation is explained, and also their use in combined line and halftone work.

Three kinds of ortho film (Eastman Kodalith, Agfa Reprolith, and Dupont Photolith) were tested with each of the following developers: Eastman's Formula D-85, Improved Kodalith Developer, and Gevaert GD190. The results of these tests are described. The reason for image spreading on bond stock is briefly discussed.

Poster Halftones. Martin Leeden. "Modern Lithographer and Offset Printer," 38, No. 11, Nov., 1942, p. 131. Five methods of making poster halftones are briefly described. In the first, enlargements are made on wet-plate from a continuous-tone positive with the screen behind the transparency. The second method is similar to the first except that the halftone screen is placed in front of the sensitized plate. In the third process a highlight halftone positive is made to a small scale and enlarged onto a wet-plate. Poster halftones may also be made by direct exposure onto grained plates, sensitized with bichromated albumen (fourth method). A condenser system must be used with this method. The new "Silvalith" process is the fifth one described.

Commercial Photography — Sane Economies. George L. Wakefield. "Process Engravers' Monthly," 49, No. 587, Nov., 1942, pp. 304-305 (2 pages). Various economies in the use of photographic materials are described. Smaller negatives and prints may be made. A piece of apparatus which can be used for cutting plate or film in the dark is described. Arc lamps should never be left on unnecessarily. A photo-electric exposure meter will help prevent waste from incorrect judgment of exposure times. Amidol can be substituted for metol if the latter is unobtainable. An acid amidol solution will stain less and keep longer than the conventional formula, and is only a little slower. Paper which has been fogged can be recovered by: (1) soaking it for one minute in a bath of 5 grains potassium permanganate, 30 minims of concentrated sulfuric acid, and water up to 50 ounces; (2) soaking it for one minute in a 2% solution of anhydrous sodium sulfite; and (3) hanging it up in the dark to dry. The speed is reduced one-half, and the contrast is also reduced.

Shutter Control and Indicating Means. Michael Annick (to General Printing Ink Corporation). U. S. Patent No. 2,307,479 (Jan. 5, 1943). In a camera, a copy board, an objective lens, a source of light for passing a projecting light beam from said copy board, through said objective lens and

thence to a sensitized member, said sensitized member being disposed within a dark room and said copy board, said objective lens and said source of light being disposed without said dark room, shutters for controlling the diaphragm opening of said objective lens, means for moving said shutters to vary the diaphragm opening, a pointer and a co-operative chart, means for moving said pointer with respect to said chart, means comprising a reversible electric motor for operating said first named means and said second named means in unison, and manually operable switch means for individually energizing the operating circuits of said motor.

Planographic Printing Surfaces and Plate Preparation

To Help Prevent Plate Spoilage. Anonymous. "National Lithographer," 50, No. 1, Jan., 1943, pp. 18, 20 (2 pages). The grainer, plate-maker, and pressman can all aid in the conservation of aluminum plates. A recommended procedure for graining is given in which glass and then wooden marbles are used. No. ½ grit is used with the glass marbles and No. 2/ grit with the wooden marbles. Correct storage of newly grained plates to prevent scratching, and careful handling to prevent denting will help conserve. The counter-etch solution should not be too strong and deep-etching should not be carried too far. Other economies are also suggested.

Every Offset-lith Image Needs Careful Handling. Adam Henri Reiser. "Printing Equipment Engineer," 65, No. 4, Jan., 1943, pp. 20-1 (2 pages). A critical period in the life of an offset plate is the time between its arrival at the press and the final OK. Asphaltum should be put on the image before the dampers are applied to the plate. Rolling a plate up by hand will insure good results. The best procedure on the press is to drop the ink rollers first and run them until there is a thin film of ink over the plate, and then apply the dampers. Lay marks should be put on every plate. Settings of ink rollers may be checked by dropping them on the plate and raising them again with the press stationary, so that each form roller applies a band of ink across the plate.

Photo-Lithography — Exposing Albumen Plates. H. M. Cartwright and A. Haigh. "Process Engravers' Monthly," 49, No. 588, Dec., 1942, pp. 328-329 (2 pages). The minimum expos-

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are for a photo-lithographic plate must be sufficient to insolubilize and tan the albumen coating throughout its thickness in the image portions. The amount of this exposure depends on (1) the quality and nature of the negative, (2) the actinic value and intensity of the light, and (3) the distance between the light source and the printing frame. The clearness and sharpness of the lines in the negative is of more importance than the density of the negative. Halftone negatives with stencil-like dots allow the most latitude in exposure. Negatives made by contact from either line or screen positives are best. Parallel illumination cannot be had, but the carbon arc is usually the most convenient and effective light source. The author advocates the use of just one lamp to minimize the spreading of the image.

Photo-Lithography—Printing-down Albumen Plates. A. Haigh and H. M. Cartwright. "Process Engravers' Monthly," 49, No. 587, Nov., 1942, pp. 302-303 (2 plates). The coating room and the printing-down room for albumen plates should be equipped with reasonably safe lights for general lighting. Amber bulbs, or ordinary bulbs coated with a yellow matt varnish may be used. Plates should be allowed to stand a short while after coating to allow them to reach equilibrium with the room humidity. The procedure for placing the plate and negative in the vacuum frame and obtaining the correct pressure is explained.

Plastic Offset Plates. G. Ellis Mott. "Printing," 67, No. 1, Jan., 1943, pp. 84-86 (3 pages). The various plastic and paper offset plates which have appeared on the market during the last few years are reviewed. Most of them make use of polyvinyl alcohol, and the properties of this substance are discussed. Polyvinyl alcohol has been used for several years in the paper industry and knowledge of its properties from this source has played an important part in the development of these plates. Plastolith and the pair, Lithomat and Photomat, are made on paper-making machines. Plastolith is a straight substitute for zinc and aluminum and does nothing to solve the scarcity of albumen. It is also somewhat brittle and liable to break if not properly held by the correct type of clamps. The chief problem with Photomat is its tendency to stretch and prevent good register. This is supposed to be overcome in the new improved Photomat. Several other plastic plates are more briefly described.

Plantographic Plate Process. William Craig Toland and Ellis Bassist (to William C. Toland, trustee). U. S. Patent No. 2,309,027 (Jan. 19, 1943). That improvement in methods of making planographic printing plates which comprises applying on a

base which includes a surface layer of a vinyl compound, a smooth uniform coating of a light-sensitive emulsion of the type which is hardened to a water-insoluble state upon exposure to actinic light, covering the light-sensitive coating with a developing ink which is translucent with respect to actinic light, exposing the light-sensitive coating by actinic light passed through a photographic negative, and then removing the unexposed portions of the light-sensitive coating and the developing ink located on these portions by lightly rubbing the surface of the plate with an applicator carrying gum arabic and water absorbed therein.

Egg Albumen Substitute. Frank R. Laidler. "Modern Lithographer and Offset Printer," 38, No. 11, Nov., 1942, p. 138. Gelatine is suggested as a substitute for egg albumen. The formula used is: 2 ounces by weight of pure leaf gelatine soaked in 30 ounces by measure of water. Dissolve by placing vessel containing mixture into hot water; then add cold water to make 65 ounces of mixture; add 1½ ounces by weight of ammonium dichromate and ½ ounce of 880° ammonia. Strain, coat, and expose in the usual way. Extra care is needed in developing, since the image is a little softer in that stage than the usual albumen image. If albumen is available, a 50-50 solution of albumen and gelatine can be used. The following substitute for gum arabic is also given: 2 ounces of borax is dissolved in 60 ounces of water; add slowly 1 pound of dextrine and stir; as soon as the boiling point is reached, remove to cool off.

Equipment and Materials

Inking Mechanism for Rotary Presses. Goss Printing Press Co., Ltd. "British Patent" No. 548,641. This invention relates to novel and improved inking mechanism particularly adapted for use with high speed rotary printing presses. The object of this invention is the provision of a rotary inking system employing a minimum number of parts of exceedingly simple construction. Another object of this invention is to produce a uniform inking action with a minimum amount of mechanical vibration, any rocking movement of the rollers by which ink is conveyed from the fountain to the distributing drum such as lifting of the transfer roller out of contact with the ink film on the fountain roller and into contact with the distributing drum, being eliminated, thus producing an inking system which will provide uniform inking at exceedingly high speeds and will hold color even at threading speeds without changes in adjustment. ("British and Colonial Printer and Stationer," 131, No. 740, Dec. 24, 1942, p. 232.)

Preventative Maintenance for the Offset Press. Charles F. Geese. "National Lithographer," 50, No. 1, Jan., 1943, p. 24. Service and spare parts for lithographic machines are scarce and must be stretched as far as possible. Regular and thorough inspection (preferably by the foreman) will help keep the machine going for the duration. Worn gears should be replaced before they ruin surrounding gears. Roller stocks should be checked for alignment. Blankets are being rejuvenated by a commercial concern.

Paper and Ink

Graphic Arts Committee Report—1942. M. S. Kantrowitz. "Paper Trade Journal," 116, No. 3, Jan. 21, 1943, pp. 25-27 (3 pages). The effort of the Graphic Arts Committee during the year was devoted almost entirely to methods designed to more definitely correlate the physical characteristics of paper with its printing qualities.

Physics of Pigments in Dispersed Systems. Henry Green. "Journal of Applied Physics," 13, 611-622 (12 pages) (1942). Photomicrographs are used to describe various types of suspensions, and to associate their physical properties with their structures. ("Chemical Abstracts," 37, No. 1, Jan. 10, 1943, p. 271.)

Basic Principles Involved in the Preparation of Pigments. Roscoe H. Sawyer. "Journal of Applied Physics," 13, 596-601 (6 pages) (1942).

General

Survey Reveals Important Lithographic Developments During First Year of War. I. H. Sayre. "Modern Lithography," 11, No. 1, Jan., 1943, pp. 16-18 (3 pages).

More About pH Control. John Stark. "Lithographers' Journal," 27, No. 10, Jan. 1943, pp. 455-456 (2 pages). pH is a scale of measurement of acidity and alkalinity just as temperature is a scale of measurement of heat. A pH reading of 7.0 denotes neutrality. pH readings under 7.0 denote increasing acidity while pH readings over 7.0 indicate increasing alkalinity. pH control is necessary because many things besides the amount of acid added can effect pH. For instance, the pH of the water acid added can effect pH. For instance, the pH of the water used may vary, and also the pH of the fountain solution may be changed by contact with rollers, paper, and ink. The pH of the albumen coating should also be controlled. pH control is not a cure-all, but it does eliminate one of the variables in lithographic printing.

Miscellaneous

Index to Graphic Arts Periodical Literature—1933-1940 (Book). R.

(Continued on Page 77)

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Publish Silk Screen Book

Silk Screen Stenciling as a Fine Art, a 180 page illustrated book, has recently been published by McGraw-Hill Book Co., Co-authors of the work are J. I. Biegeleisen, of the Silk Screen Department, School of Industrial Art, and Max Arthur Cohn, with an introduction by Rockwell Kent. After dealing with the basic principles and equipment, the book gives step-by-step descriptions of the paper stencil method, the block-out stencil method, the tusche stencil method, film stencils, photographic stencils, multicolor printing, color principles, and the actual printing operation.

ATF Files Suit

A suit was filed February 5 by American Type Founders, Inc., for a declaratory judgement against the Dexter Folder Co., Pearl River, N. Y., concerning patent rights on a stream feeder mechanism on presses.

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7. To gain parts and repair business.
8. To introduce new packages.
9. To offer substitute products for established needs.
10. To sell the product instead of the package.
11. To conduct market tests on new products.
12. To relate what the company is doing in military production.
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16. To arouse the enthusiasm of workers for production achievement.
17. To do everything possible to help preserve our American system of free enterprise.
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LITHO ABSTRACTS

(Continued from Page 73)

Randolph Karch. International Association of Printing House Craftsmen, Evanston, Illinois. This book is an index to graphic arts periodical literature published during all or some of the years 1933-1940. The entries are divided by subject under the following section heads: (A) Composition; (B) Type and Ornament; (C) Typography, Layout, Design; (D) Proofreading; (E) Presswork; (F) Ink; (G) Electrotyping; (H) Stereotyping; (I) Rubber Plates; (J) Photo-engraving; (K) Planographic Process; (L) Intaglio Process; (M) Paper; (N) Bindery; (O) Production Management; (P) Business Management; (Q) Advertising; (R) Newspaper and Publishing; (S) Education and Schools; and (T) History.

Printing Press Specifications—Letterpress, Offset, Gravure. Anonymous. "Printing Equipment Engineer," 9th Annual Reference Issue, Dec., 1942, pp. 159-166 (8 pages). Manufacturers specifications are tabulated for platen, cylinder, and rotary letterpress machines; offset presses; newspaper presses; aniline presses; sheet-fed and roll-fed gravure presses; and die-stamping presses:

Colours—Can They be Matched by Physical Measurements? Anonymous. "Modern Lithographer and Offset Printer," 38, No. 11, Nov., 1942, pp. 134, 136 (2 pages). Many difficulties arise in the accurate matching of colored inks by physical instruments such as the spectrophotometer. There is usually a considerable range of pigment dyestuffs from which the original ink may have been made. Also the hue may be different in the full strength and the tint strength of the same ink. Some pigments are opaque and some transparent and each gives a different visual effect which is not easily recorded by the spectrophotometer. The type of surface, matt or bright finish, must be taken into account. The sheen may also affect the visual appearance.

War Standard Coordinates Systems for Specifying and Describing Color. Anonymous. "Paint, Oil, and Chemical Review," 105, No. 2, Jan. 28, 1943, pp. 18, 20, 22 (3 pages).

Apparatus and Method of Testing Surfaces. Joseph G. Curado and Richard A. Denton (to General Printing Ink Corporation). "U. S. Patent" No. 2,300,107 (October 27, 1942). Method for testing the scratching or marring resistance of printed surfaces which comprises subjecting said surface to the action of a blunt non-heat-conducting testing member at a predetermined speed coordinated with respect to the speed attained in a printing press and under predetermined pressure.★★

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"For the love o' Pete, this ain't no time to relax, Bongo!"

...don't relax!

WAR or no war, this is no time to relax your advertising and selling effort. If your firm and brand names have any value, and you still expect to be in business after the war, don't relax your efforts to keep your customers remembering who you are and what you sell. Don't give them a chance to forget you!

If you want to keep people in the field of lithography remembering you and what you sell, there is no surer way than regular advertising in

MODERN LITHOGRAPHY

254 WEST 31st STREET

NEW YORK

Member Audit Bureau of Circulations

TALE ENDS

AN UNIDENTIFIED cover-to-cover reader of this magazine has sent us, from the December issue, the title page of the article, "Lady Lithographers." This reader has reminded us in brazen red pencil scrawls that it should be "women," and not "ladies." Of course we don't know who of the industry's gentler sex he has met, but most of those we have met are correctly called "ladies." Besides, have our readers no appreciation of euphony?

★

What ever became of that printing paper we were to expect about a year ago that would have to be "a few shades darker," or "yellowish," because of the shortage of chemicals for bleaching?

★

Straight pins are one of the things we could probably struggle along without. But the other day we casually tried to get some for holding copy together. After trying several places and finding none in stock, we finally wound up in the "world's largest department store." Yes, they had some, but the limit was one paper to a customer. So we took our ration, paid the 4c, looked at the pins and found they were imported from London. Why worry about shortages—we'll import what we can't produce!

★

Just back from Washington . . . around in the Government departments where clever chit-chat and well-rounded phrases are always the vogue, the expression of the hour is "on the beam." Everything is or is not "on the beam." If you don't mention "on the beam" at least once every two minutes, you're definitely a rank outlander. We also note as well that "off the record" still retains all of its previous popularity. It's becoming quite a job keeping abreast of Washington big-time talk. We haven't heard anybody mention "off his nut" lately. Maybe it could be appropriately revived . . . we mean in Washington.

MODERN LITHOGRAPHY



"We'll simply have to plan it better."

Printing now must be 11.2% More Effective

Never before has lithography had a more important function than now, in helping win the war.

But the W. P. B. has found it necessary to limit the amount of paper for many purposes by 10%.

This puts an added responsibility upon buyers and producers of lithography. In order that there may be no deviation from the 100% net results that lithography accomplishes for the Victory

program, printed pieces must be made 11.2% more effective than ever before.

This requires more thought, more skill, and better materials in the production of offset—such as PRECISION-coated litho paper which reduces pressroom waste while increasing halftone clarity. Made by The Martin Cantine Company, Saugerties, N. Y., Specialists in Coated Papers since 1888.

LITHOGLOSS

Coated one side—deluxe grade. For labels, boxes and displays, with regular or gloss inks and bronzing. Varnish quality.

ZENAGLOSS OFFSET C2S

Coated two sides. Gives lithographed direct mail brilliance and sparkle. Surfaced for offset or gloss inks and varnish.

CATSKILL LITHO

Coated one side. For labels and general production work at lowest cost for Cantine quality. Ask for samples.

Cantine's PRECISION COATED LITHOS

an undying I mprint



No other personality in all history has left its imprint more indelibly upon community growth and National spirit than the *printer*. Courageous and optimistic, he pioneered for education and enlightenment and all the advantages which they bring. He spurred civic pride, fought for law and order, opened a fertile field for initiative and earning power. He gave new impetus to business effort. He left cherished traditions. In many instances, America can thank the printing craft for her wholesome ways of life. ★ And like the Minute Men of early days, the printers of today must be alive to the message inscribed upon the printed page—the reason for it, its purpose and desired influence. Only by such genuine interest can they live up to ideals and further the highest efficiency in our war effort. Whatever the National objective, the printer can simplify the means.

HARRIS • SEYBOLD • POTTER • COMPANY

HARRIS DIVISION

CLEVELAND, OHIO

MANUFACTURERS OF OFFSET LITHOGRAPHIC • LETTERPRESS
AND GRAVURE PRINTING MACHINERY • • • • •

SEYBOLD DIVISION

DAYTON, OHIO

MANUFACTURERS OF PAPER CUTTERS AND TRIMMERS • KNIFE
GRINDERS • DIE PRESSES • WRIGHT DRILLS • MORRISON STITCHERS